



Radiocommunication Bureau

(Direct Fax N°. +41 22 730 57 85)

Administrative Circular
CACE/375

31 March 2006

**To Administrations of Member States of the ITU and
Radiocommunication Sector Members participating in the
work of the Radiocommunication Study Groups and the Special
Committee on Regulatory/Procedural Matters**

Subject: Radiocommunication Study Group 7
– Approval of 4 new ITU-R Questions and 1 revised ITU-R Question

By Administrative Circular CAR/200 of 19 December 2005, 4 draft new ITU-R Questions and 1 draft revised ITU-R Question were submitted for approval by correspondence in accordance with Resolution ITU-R 1-4 (§ 3.4).

The conditions governing these procedures were met on 19 March 2006 and therefore the Questions are considered approved.

The texts of these Questions are attached for your reference and will be published in Addendum 1 to Document 7/1 which contains the ITU-R Questions approved by the 2003 Radiocommunication Assembly and assigned to Radiocommunication Study Group 7.

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 5

Distribution:

- Administrations of Member States and Radiocommunication Sector Members
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- ITU-R Associates in the work of Radiocommunication Study Group 7
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

ANNEX 1

QUESTION ITU-R 242/7

Radio quiet zones

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that incumbent services and new spectrum users are continually being accommodated under a successively refined regime of cooperation and regulation;
- b) that the capabilities of incumbent services may with time become successively more refined;
- c) that innovative and desirable new uses of the spectrum may affect incumbent services in ways unforeseen when the incumbent services were designed or refined, or when the new uses were conceived, constructed and/or deployed;
- d) that the mechanisms of accommodation between services take a diverse and successively refined form;
- e) that one administration has for nearly 50 years undertaken to operate a radio quiet zone within its borders as a means of accommodating incumbent passive services (mainly the radio astronomy service) while new spectrum uses were introduced;
- f) that this quiet zone has operated as an effective means of forestalling contention between services;
- g) that the model of a radio quiet zone is being emulated by other administrations in support of large, new, multinational facilities of the radio astronomy service,

further considering

that the mechanisms of administration are as important to the operation of the present radio quiet zone as are its boundaries and other physical attributes,

noting

- a) that new uses of the spectrum increasingly require cooperation among administrations;
- b) that the Radio Regulations (RR) allow for the operation of stations in the radio astronomy service that are not in accordance with the Table of Frequency Allocations under specified conditions (see RR Nos. **1.16** and **4.4**),

further noting

that the ITU-R is the proper venue for fostering such cooperation among administrations,

decides that the following Question should be studied

- 1 What are the characteristics of existing radio quiet zones?
- 2 What characteristics of the instruments of the radio astronomy service have stimulated the development of radio quiet zones?
- 3 What characteristics of the electromagnetic environment stimulated the development of radio quiet zones?

further decides

- 1 that the results of the above studies should be included, as appropriate, in ITU-R Recommendations or Reports;
- 2 that the above studies should be completed by 2010.

Category: S3

ANNEX 2

QUESTION ITU-R 243/7

Characterization of technical parameters and interference effects and possible interference mitigation techniques for passive sensors operating in the Earth exploration-satellite service (passive)

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that passive sensors are used in the remote sensing of the Earth and its atmosphere by Earth exploration- and meteorological satellites in certain frequency bands allocated to the Earth exploration satellite service (EESS) (passive);
- b) that the products of these passive sensor operations are used extensively in meteorology, climatology, and other disciplines for operational and scientific purposes;
- c) that passive sensors operating in the EESS (passive) are sensitive to any emissions within their allocated band;
- d) that any emissions that raise the noise floor in bands allocated to the EESS (passive) may constitute interference to the passive sensors using those bands;
- e) that passive sensors may not be able to differentiate the wanted signal from the interference and that interference may not be identifiable in the passive sensor products;
- f) that in order to help protect passive sensors from interference it may be necessary for those sensors to employ interference mitigation techniques,

further considering

- a) that Recommendations ITU-R SA.515, ITU-R SA.1028, and ITU-R SA.1029 provide general EESS (passive) operational characteristics, performance and protection,

noting that

- a) Recommendation ITU-R SM.1633 considers interference between EESS (passive) in certain bands in the range 1.4 to 52.8 GHz from certain active services in specific adjacent or nearby bands;
- b) Recommendation ITU-R SM.1542 provides some information regarding techniques that the EESS (passive) sensors may employ to mitigate unwanted emissions,

decides that the following Question should be studied

- 1 What are the range of applications and uses of passive sensors and its products?

- 2 What are the typical technical and operating characteristics of passive sensors that can be used for studies involving sharing and compatibility?
- 3 How can the degradation to passive sensor operations from all possible interference sources be characterized?
- 4 Can the degradation due to interference be identified in the passive sensor and its products?
- 5 Are there mitigation techniques that can be employed by the passive sensors to protect their operations from degradation?

further decides

- 1 that the results of the above studies should be included in one or more Recommendations and/or Reports;
- 2 that the above studies should be completed by 2008.

Category: S1

ANNEX 3

QUESTION ITU-R 244/7*

Interference between standard frequency and time signal services operating between 20 and 90 kHz

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that the number of standard frequency and time signal (SFTS) radio broadcast services operating between 20 and 90 kHz are increasing;
- b) that many existing services have increased or plan to increase radiated power;
- c) that stations produce significant signal levels in areas served by other stations at identical frequencies;
- d) that definitions for interference between stations are not well developed given their unique application for measuring epoch and phase of carrier;
- e) that methods of measurement of signal strength and standard instrumentation to do so are not well developed or widely available;
- f) that required algorithms/software for propagation calculations are not readily available,

decides that the following Question should be studied

- 1 What are the definitions for interference between stations and what are their service areas?
- 2 What algorithms are available/required for calculation of signal propagation and prediction of signal strength and signal-to-noise ratio (SNR)?
- 3 What standard signal strength and SNR measurement procedures should be used and what instrumentation is available/necessary to perform these measurements?
- 4 What standard procedures should be used to measure radiated power?
- 5 What methods can be used to limit interference?

further decides

- 1 that the results of the above studies should be included in (a) Recommendation(s);
- 2 that the above studies should be completed by 2008.

Category: S1

* This Question should be brought to the attention of Radiocommunication Working Party 1C.

ANNEX 4

QUESTION ITU-R 245/7*

Interference to the standard frequency and time signal service in the low-frequency band caused by noise from electrical sources

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that the number of standard frequency and time signal (SFTS) service systems in the low-frequency (LF) band (20-90 kHz), and the number of radio-controlled clocks that receive this service, are increasing;
- b) that the number of sources of electrical interference is also increasing, and such interference has been reported to affect severely the receiver environment of low-frequency SFTS;
- c) that the level of electro-magnetic interference to the LF band from all sources has not yet been clearly determined and criteria for interference from electrical sources are necessary to maintain the usefulness of the SFTS service,

decides that the following Question be studied

- 1 How are signal strength and signal-to-noise ratio measured in the LF band and what instrumentation should be used?
- 2 What evidence is available for the effects of electro-magnetic interference from all sources on SFTS reception in the LF band?
- 3 What level of emission in the LF band from all sources would cause harmful interference as defined in section 7 paragraph 1.169 of the Radio Regulations to the reception of SFTS by radio-controlled clocks?
- 4 What methods can be adopted to reduce the effects of harmful interference in the LF band on the reception of SFTS by radio-controlled clocks?

further decides

- 1 that the results of the above studies should be in Report(s);
- 2 that the above studies should be completed by 2010.

Category: S2

* This Question should be brought to the attention of Radiocommunication Working Party 1C.

ANNEX 5

QUESTION ITU-R 235-1/7

Technical and operational characteristics of applications of science services* operating above 275 GHz**

(2000-2006)

The ITU Radiocommunication Assembly,

considering

- a) that the spectrum in many of the frequency bands used for space radiocommunication is increasingly congested and this problem is expected to get worse;
- b) that some current space research, Earth exploration, meteorological and astronomical systems utilize frequencies above 275 GHz and additional ones are planned;
- c) that communication links are being used or planned for some satellite systems for inter-satellite communications at frequencies above 275 GHz;
- d) that extensive research has already been done and standards established on the hazards of radiation at frequencies above 275 GHz through the International Electrotechnical Commission in standard IEC 60825-1 and the American National Standards Institute in standard ANSI Z136.1-1993;
- e) that at frequencies above 275 GHz, sharing between services is not precluded;
- f) that the study of Questions by Radiocommunication Study Groups includes the following:
 - use of the radio-frequency spectrum in space radiocommunication;
 - characteristics and performance of radio systems;
 - operation of radio systems,

decides that the following Question should be studied

- 1** What are the technical and operational characteristics of systems operating at frequencies above 275 GHz within the science services?
- 2** Are sharing studies required for systems operating at frequencies above 275 GHz within the science services?

* As used in this Question, the phrase “Science services” refers to Earth exploration-satellite (EESS), space research (SRS), space operation (SOS), radio astronomy (RAS), meteorological-satellite (MetSat), and meteorological aids (MetAids) services.

** The frequency spectrum above 275 GHz is currently not allocated (see also No. 5.565 of the Radio Regulations).

further decides

- 1** that the results of studies above 275 GHz should be brought to the attention of the other Study Groups;
- 2** that the results of the above studies should be included in (a) Recommendation(s) or (b) Reports;
- 3** that the results of the studies should lead to the formulation of appropriate Recommendations or Reports by 2008.

Category: S2
