

# INTERNATIONAL TELECOMMUNICATION UNION



## *Radiocommunication Bureau*

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Administrative Circular  
CACE/409

7 February 2007

### **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 4**

- **Approval of 1 revised ITU-R Question**
- **Suppression of 4 ITU-R Questions**
- **Modification of category of 23 ITU-R Questions**

By Administrative Circular CAR/222 of 18 October 2006, 1 draft revised ITU-R Question was submitted for approval by correspondence in accordance with Resolution ITU-R 1-4 (§ 3.4). In addition, the Study Group proposed the suppression of 4 ITU-R Questions and the modification of category of 23 ITU-R Questions.

The conditions governing these procedures were met on 18 January 2007.

The text of the approved Question is attached for your reference (Annex 1) and can be found in Addendum 4 to Document 4/1 which contains the ITU-R Questions approved by the 2003 Radiocommunication Assembly and assigned to Radiocommunication Study Group 4. The Questions for suppression and modification of category are indicated in Annexes 2 and 3 respectively.

Valery Timofeev  
Director, Radiocommunication Bureau

### **Annexes: 3**

#### 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 4
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

## ANNEX 1

### QUESTION ITU-R 46-3/4

#### **Preferred multiple-access characteristics in the fixed-satellite service**

(1990-1993-2007)

The ITU Radiocommunication Assembly,

*considering*

- a) that satellites in the fixed-satellite service (FSS) are simultaneously used by many earth stations at different locations;
- b) that various multiple-access methods including time division multiple-access (TDMA) and code division multiple-access (CDMA) are already used or planned by various administrations;
- c) that multicarrier-based multiple-access schemes such as orthogonal frequency division multiplexing – frequency division multiple-access (OFDM-FDMA or OFDMA), multicarrier CDMA (MC-CDMA) and multifrequency TDMA (MF-TDMA) have been adopted or are being considered to be adopted in many terrestrial system standards for future implementation;
- d) that, in order to ensure the efficient use of frequency spectrum and orbits, it may be desirable to determine the optimum multiple-access characteristics;
- e) that recommendation of certain system characteristics may be desirable;
- f) that the transmission characteristics of multiple-access systems, especially multicarrier-based multiple-access systems, may be of importance in their interaction with one another;
- g) that increases in interference on CDMA signals can be accommodated by reducing system capacity,

*decides* that the following Question should be studied

- 1 What are the preferred multiple-access methods taking into account in particular the nature of the network, the modulation methods and the different system characteristics used in the FSS?
- 2 What characteristics of multiple-access systems might usefully be recommended as preferred and, if appropriate, what operational characteristics should be selected for their application?
- 3 What is the effect of interference on networks using CDMA techniques?
- 4 What is the effect of other transmission parameters such as coding and modulation on the systems or networks using multicarrier-based multiple-access techniques?

*further decides*

**1** that the results of these studies should lead to the formulation of appropriate Recommendations by 2010.

Category: S2

## ANNEX 2

### List of suppressed ITU-R Questions

| Question ITU-R | Title                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 202-1/4        | Interference criteria in the fixed-satellite service for the optimum inhomogeneous use of the available capacity of the geostationary orbit                    |
| 230/4          | Studies on efficient use of fixed-satellite service orbit/spectrum resources resulting from Resolution 18 (Kyoto-94)                                           |
| 241-1/4        | Technical implications of possible definition of the quasi-geostationary orbit on the fixed-satellite service using geostationary and non-geostationary orbits |
| 261/4          | Allowable noise in fixed-satellite service systems due to interference                                                                                         |

## ANNEX 3

### Modification of categories

| Number                  | Category | Group | Title                                                                                                                                                                                                                             |
|-------------------------|----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">55-2/4</a>  | (S2)     | WP 4A | Feeder links in the fixed-satellite service used for the connections to and from geostationary satellites in various mobile-satellite services                                                                                    |
| <a href="#">68-1/4</a>  | (S3)     | WP 4A | Frequency sharing of the fixed-satellite service and the inter-satellite service with other space radio services under provisions of No. 9.21 of the Radio Regulations                                                            |
| <a href="#">70-1/4</a>  | (S3)     | WP 4A | Protection of the geostationary-satellite orbit against unacceptable interference from transmitting earth stations in the fixed-satellite service at frequencies above 15 GHz                                                     |
| <a href="#">81-1/4</a>  | (S3)     | WP 4A | Frequency sharing among networks in the fixed-satellite service, the mobile-satellite service and those of satellites equipped to operate in more than one service in the 20-50 GHz band                                          |
| <a href="#">203-1/4</a> | (S2)     | WP 4A | The impact of using small antennas on the efficient use of the geostationary-satellite orbit                                                                                                                                      |
| <a href="#">205-1/4</a> | (S2)     | WP 4A | Frequency sharing between non-geostationary-satellite feeder links in the fixed-satellite service used by the mobile-satellite service                                                                                            |
| <a href="#">206-3/4</a> | (S2)     | WP 4A | Sharing between non-geostationary-satellite feeder links in the fixed-satellite service used by the mobile-satellite service and other space services, and networks of the fixed-satellite service using geostationary satellites |
| <a href="#">208/4</a>   | (S3)     | WP 4A | Use of statistical and stochastic methods in evaluation of interference between satellite networks in the fixed-satellite service                                                                                                 |
| <a href="#">209/4</a>   | (S1)     | WP 4A | The use of frequency bands allocated to the fixed-satellite service for both the up and downlinks of geostationary-satellite systems                                                                                              |
| <a href="#">214/4</a>   | (S2)     | WP 4A | Technical implications of steerable and reconfigurable satellite beams                                                                                                                                                            |
| <a href="#">231/4</a>   | (S2)     | WP 4A | Sharing between networks of the fixed-satellite service using non-geostationary satellites and other networks of the fixed-satellite service                                                                                      |
| <a href="#">235/4</a>   | (S2)     | WP 4A | Use of operational facilities to meet power flux-density limitation under Article 21 of the Radio Regulations                                                                                                                     |
| <a href="#">236/4</a>   | (S2)     | WP 4A | Interference criteria and calculation methods for the fixed-satellite service                                                                                                                                                     |
| <a href="#">239/4</a>   | (S2)     | WP 4A | Sharing criteria between systems utilizing inter-satellite links                                                                                                                                                                  |
| <a href="#">245/4</a>   | (S1)     | WP 4A | Out-of-band and spurious emission limits                                                                                                                                                                                          |

| Number                         | Category | Group        | Title                                                                                                                                                                                 |
|--------------------------------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#"><u>246/4</u></a>   | (S2)     | WP 4A        | Sharing between the inter-satellite service, Earth-exploration satellite (passive) service and other services in frequency bands above 50 GHz                                         |
| <a href="#"><u>256/4</u></a>   | (C2)     | WP 4A        | Criteria and methodologies for sharing between the fixed-satellite service and other services with allocations in the band 40.5-42.5 GHz                                              |
| <a href="#"><u>259/4</u></a>   | (S2)     | WP 4A        | Earth station off-axis e.i.r.p. density levels in the bands above 14.5 GHz allocated to the fixed-satellite service                                                                   |
| <a href="#"><u>264/4</u></a>   | (C2)     | WP 4A        | Technical and operational characteristics of networks of the fixed-satellite service operating above 275 GHz                                                                          |
| <a href="#"><u>266/4</u></a>   | (C1)     | WP 4A        | Technical characteristics of high-density fixed-satellite service earth stations operating with geostationary satellite orbit fixed-satellite service networks in the 20/30 GHz bands |
| <a href="#"><u>268/4</u></a>   | (S2)     | WP 4A        | Development of methodologies for the assessment of satellite unwanted emission levels before launch                                                                                   |
| <a href="#"><u>269/4</u></a>   | (S1)     | WP 4A and 4B | Spectrum requirements and technical and operational characteristics of user terminals (VSAT) for global broadband satellite systems                                                   |
| <a href="#"><u>270-1/4</u></a> | (S1)     | WP 4A        | Fixed-satellite service systems using very wideband spreading signals                                                                                                                 |

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