

EUROPEAN COMMON PROPOSALS

PART 29

Agenda Item 1.29 – Sharing between non-GSO and GSO systems

Introduction

Resolution 136 invites the ITU-R: "to undertake, as a matter of urgency, the appropriate technical, operational and regulatory studies on sharing arrangements which achieve an appropriate balance between GSO FSS networks and non-GSO FSS systems in the frequency range 37.5-50.2 GHz", and "to report the results of these studies to WRC-03". CEPT will seek to achieve this balance while preserving long term access to GSO resources.

For CEPT, it is premature to take any regulatory or procedural measures until further studies based on more realistic parameters have been conducted. Resolution 136 should be reviewed to call for additional studies to be completed for a future competent Conference and to give guidances on the scope of these studies.

Resolution 78 invites ITU-R to conduct, as a matter of urgency, and in time for consideration by WRC-03, the appropriate regulatory studies to develop procedures for application in cases where the operational or additional operational limits in Article 22 are exceeded. CEPT considers the existing procedures contained in Sections V and VI of Article 15 as appropriate in this respect, together with an ITU-R Recommendation containing in its Annex, a set of procedures which could be used in the event of an exceedence of the *operational or additional operational* epfd limits. (Method A1 in the final CPM Report to WRC-03). Such an ITU-R Recommendation should refer to the existing ITU-R Recommendations containing methodologies and procedures to identify and quantify the level of interference produced by a non-GSO system in excess of the operational limits contained in Article 22 or calculated to be in excess of the additional operational limits in Article 22. There is no need to incorporate any of these Recommendations by reference in the Radio Regulations.

Proposals

SUB-PART 29A – RESOLUTION 136 (WRC-2000)

MOD EUR/1.29/1

RESOLUTION 136 (REV. WRC-03)

Frequency sharing in the range 37.5-50.2 GHz between geostationary fixed-satellite service networks and non-geostationary fixed-satellite service systems

The World Radiocommunication Conference (Geneva, 2003),

considering

- a) that WRC-2000 made provisions for the operation of geostationary fixed-satellite service (GSO FSS) networks and non-GSO FSS systems in the 10-30 GHz frequency range;
- b) that there is an emerging interest in operating GSO FSS networks and non-GSO FSS systems in the 37.5-50.2 GHz frequency range;
- c) that there is a need to provide for the orderly development and implementation of new satellite technologies in the 37.5-50.2 GHz frequency range;
- d) that systems based on the use of new technologies associated with both GSO FSS networks and non-GSO FSS systems are capable of providing the most isolated regions of the world with high-capacity and low-cost means of communication;
- e) that there should be equitable access to the radio-frequency spectrum and orbital resources in a mutually acceptable manner that allows for new entrants in the provision of services;
- f) that the Radio Regulations should be sufficiently flexible to accommodate the introduction and implementation of innovative technologies as they evolve;
- g) that the CPM Report to WRC-2000 stated that in the bands 37.5-50.2 GHz where there has been little or no deployment of satellite systems to date, both GSO FSS and non-GSO FSS operators should be expected to exhibit flexibility in achieving the appropriate balance in the sharing environment,
- h) that this Conference, having considered the outcome of ITU-R studies on this subject as summarized in the CPM Report to this Conference, decided that further studies are needed before the conditions for non-GSO FSS systems to share these bands with GSO FSS systems can reliably be determined,

resolves to urge administrations

in the application of Article 22 to their GSO FSS networks and non-GSO FSS systems in the 37.5-50.2 GHz frequency range prior to the review by a future competent Conference of the results of the studies called by this Resolution, to seek balanced sharing arrangements between these systems,

invites ITU-R

1. to undertake, as a matter of urgency, further technical, operational and regulatory studies on sharing arrangements which achieve an appropriate balance between GSO FSS networks and non-GSO FSS systems in the frequency range 37.5-50.2 GHz. Such further studies should embrace, but not necessarily be limited to:
 - a) Techniques which individually or in combination avoid, or otherwise adequately mitigate, main beam-to-main beam coupling of interference in both directions between non-GSO FSS and GSO FSS systems at "in-line" instants. The studies should be based on the key parameters of systems firmly planned to operate in the bands concerned, and should be pursued sufficiently far to establish appropriate long-term and short-term interference criteria and to compute the time statistics of interference from non-GSO system to GSO network, and from GSO network to non-GSO system, to determine whether those criteria would be met. The computations and comparisons should be made firstly assuming no mitigation, and subsequently with each of the various mitigation techniques or combinations of mitigation techniques envisaged. The mitigation techniques thus investigated should include:
 - Satellite diversity or arc avoidance.
 - Geographical isolation between earth stations.
 - Site diversity.
 - Adaptive coding.
 - Link balancing.
 - Opposite polarizations for GSO and non-GSO systems.
 - Other appropriate techniques, if any.
 - b) The development of technical, operational and regulatory guidance which would enable a future competent Conference to decide whether or not to include, in the Radio Regulations, e.p.f.d. limits on non-GSO FSS systems for the protection of GSO FSS networks, and off-axis e.i.r.p. density limits on earth stations in GSO FSS networks for the protection of non-GSO FSS systems, in the frequency range 37.5-50.2 GHz. Such guidance should include quantitative values for suitable e.p.f.d._↓, e.p.f.d._↑ and off-axis e.i.r.p. density limits;
2. to report the results of these studies to a future competent Conference.

Reasons: No operational studies have been conducted due to the fact that the actual operational parameters of both non-GSO and GSO systems that are planned to operate in the range 37.5-50.2 GHz are still unclear. Therefore it would be premature to include any provisions in RR at WRC-03. Further studies are required before the conditions for non-GSO FSS systems to share these bands with GSO FSS systems can firmly be established. No operational experience is currently available about the commercial satellite systems in the 50/40 GHz range. At least results given by experimental satellites shall be available before the studies can be considered as fitted with the actual operation of satellite systems. The above modifications to Resolution 136 (WRC-2000) are part of the CPM text.

SUB-PART 29B – RESOLUTION 78 (WRC-2000)

NOC EUR/1.29/2

ARTICLE 15

Interferences

NOC EUR/1.29/3

ARTICLE 22

Space services

SUP EUR/1.29/4

RESOLUTION 78 (WRC-2000)

Development of procedures in case the operational or additional operational limits in Article 22 are exceeded

***Reasons:** Use of existing procedures contained in Section V and VI of Article 15, together an ITU-R Recommendation containing in its Annex, a set of procedures, which could be used in the event of an exceedence of the operational or additional operational epfd limits. Such Recommendation refers to the existing ITU-R Recommendations containing methodologies and procedures to identify and quantify the level of interference produced by a non-GSO system in excess of the operational limits contained in Article 22 or calculated to be in excess of the additional operational limits in Article 22. There is no need to incorporate any of these Recommendations by reference in the Radio Regulations.*