

WRC-2003 Advisory Committee

IWG-2/IWG-3

Draft U.S. Proposal on WRC-03 Agenda Item 1.8.2 (Recommendation 66)

Agenda Item 1.8.2 to consider issues related to unwanted emissions: consideration of the results of studies, and proposal of any regulatory measure regarding the protection of passive services from unwanted emissions, in particular from space service transmissions, in response to Recommends 5 and 6 of Recommendation 66 (Rev. WRC-2000).

Background Information

Recommends 5 and 6 of Recommendation 66 (Rev. WRC-2000) state:

“5. study those frequency bands and instances where for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix 3 may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

6. study those frequency bands and instances where for technical or operational reasons, out-of-band limits may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such services.”

The lead responsibility for carrying out the referenced studies was Task Group 1/7. It developed a methodology for analyzing compatibility between a passive service and an active service allocated in different bands and providing guidance on possible solutions. These are reflected in Draft New Recommendation ITU-R SM.[BbB]. This DNR identifies passive service bands where it could be technically and/or economically difficult for active services to meet the passive protection criteria. In such cases, specific band-by-band studies have been carried out and are documented in this DNR. The actual impact on all concerned services of implementing or not implementing such limits are taken into account.

The studies were conducted in over 20 band pairs where compatibility concerns had been raised. The methodology and rationale for these studies are given in Recommendation ITU-R SM.[BbB]. In a certain number of these band pairs, incompatibilities between existing or planned active and passive systems were identified under the given operational conditions. Other band pairs were found to be compatible under conditions specific to each band pair. Within the bands considered, not all studies have been completed.

The CPM text reflects three methods for solving this agenda item. The first has three variations and envisions inclusion of limits in the Radio Regulations. The second is a consultative process between concerned administrations. The third includes no modification of the Radio Regulations. The DNR indicated above is a comprehensive evaluation of the problem areas associated with this agenda item.

All but one of these methods involves incorporation of some or all unwanted emission limits identified in the DNR into the Radio Regulations, or modification of the Radio Regulations to provide for the consultative process. Up to now, the only Radio Regulations which generally deal with unwanted emissions are Appendix 3, and No. 4.6.

Inclusion of explicit unwanted emission provisions directly in the radio regulations would place a burden on administrations to confirm that satellites are compliant with these regulations. There would be additional cost, project delays, and further burden on manufacturers.

Putting mandatory measures in the Radio Regulations is less responsive to technical advances and mitigation methods, and could preclude effective consultation between active and passive services. Also, the results of the band-by-band study would be ignored and effective co-existence between the services would suffer.

Proposals:

USA/1.8.2/1

NOC

Reason: The United States endorses Method 3 of the CPM text. This method would not require a change to any part of the Radio Regulations, e.g. Articles 5, 21, 29 and Appendix 3, and would rely on the application of ITU-R Recommendations, such as RA.769, SA.1029, SM[BbB]. These provide guidance to Administrations who wish to use them as to how to protect the passive services.

Under this method, administrations have full flexibility to implement which ITU-R Recommendations they consider appropriate. Revision of such Recommendations in order to adapt to changing technology can be achieved more easily than mandatory limits. Such mandatory limits could only be changed at WRCs, and consequently would probably be continuously on the agenda.

USA/1.8.2/2

SUP

~~Recommendation 66 (Rev/WRC-2000)~~

~~Studies of the Maximum Permitted Levels of Unwanted Emissions.~~

Reason: The studies called for by this Recommendation have been essentially completed. Any additional needs of the passive services can be dealt with through modification of appropriate Recommendations. There is no reason to keep this topic on future agendas.