PRELIMINARY VIEWS ON WRC-03

WRC-2003 Agenda Item 1.8.2: consideration of the results of studies, and proposal of any regulatory measures 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)

ISSUE: Determining practical methods for protecting passive services from unwanted emissions, taking into account the impact on active services.

BACKGROUND: At previous WRCs, attempts have been made to achieve a balance between the requirements of the passive services and the requirements of space-based services. However, there is a wide gap between the levels of interference that are deemed detrimental to the passive services and the unwanted emission attenuation that can be achieved by current and projected satellite designs. Recent studies in the ITU-R have focused on a band-by-band approach to solving the problem, an approach followed by the United States in ITU-R Task Group 1/7 and its precursor, Task Group 1/5. TG 1/7 is exploring a variety of solutions, ranging from case-by-case negotiated solutions to limits in certain bands in the Radio Regulations. Studies are continuing in the ITU-R but it is expected that ultimately there may still be significant differences between the passive and space-based services in terms of what is desired and what is achievable for OOB attenuation.

PRELIMINARY VIEW: While recognizing the important role that passive services play in our society, there are fundamental limitations on what satellite designers can do to mitigate interference into the passive services. In particular, cost and spacecraft weight, space, other limitations must be considered in developing the out-of-band or spurious emission limits for satellites in the FSS. The United States is committed to ensuring the viability of commercial and Government FSS systems while protecting the passive services to the greatest extent practicable.

The United States does not support inclusion of OOB emission masks in the Radio Regulations. However, the United States did agree to participate in the development of an ITU-R Recommendation on OOB emissions. Such a draft new Recommendation on OOB emissions was adopted by the November 2000 Study Group 1 meeting (ITU-R SG 1 Document 1/33-E, dated 1 November 2000). The United States supports the use of this Recommendation as a general OOB emission mask for FSS services. For satellite systems with a bandwidth greater than 1.25 MHz, it should be noted that this mask is significantly tighter than the FCC's longstanding OOB emission rules. The Recommendation also contains definitions for relevant bandwidths, directions for application of the mask to multiple carrier operations, and scaling factors for narrowband and wideband carriers that specify the extent of the OOB domain for these types of carriers.

While the recommended OOB mask described above will not completely eliminate interference to the passive services from the FSS, it does achieve a practical balance between the needs of both passive and space-based FSS systems. Additional protection of specific passive service sites, if required, could be handled on a case-by-case basis through negotiations between the passive service operator and the FSS system operator or licensee, as has been successfully done in previous cases.

(April 16, 2001)