

December 20, 1999

Mr. Donald Abelson
Chief of the International Bureau
Federal Communications Commission
Washington, D.C. 20554

Dear Mr. Abelson:

The National Telecommunications and Information Administration on behalf of the Executive Branch Agencies, has approved the release of additional proposals for WRC-2000. Included is a draft proposal agenda item 1.15.1(RNSS), proposed changes to the proposal for agenda item 1.16, a draft proposal for the modification Recommendation **66** and a draft proposal for the suppression of Resolutions **60** and **63**. This package is being forwarded to you for review. Karl Nebbia from my staff will contact Damon Ladson and reconcile any differences.

Sincerely,

William T. Hatch
Acting Associate Administrator
Office of Spectrum Management

Enclosure

Proposals for Agenda Item 1.15.1

to consider new allocations to the radionavigation-satellite service in the range from 1 to 6 GHz required to support developments

Proposal for additional Radionavigation Satellite Service (RNSS) signals

Background Information: The 5 GHz band presents no unique advantages for new RNSS systems and all RNSS requirements can be satisfied by existing and new allocation to be implemented in the 1200 and 1600 MHz bands. The increased power required at 5 GHz compared to the lower frequencies makes an allocation for RNSS at 5 GHz questionable because it may not be feasible to implement satellite networks from an economic standpoint.

ITU-R studies to date do not support the need for an allocation for RNSS at 5 GHz. There are a number of unresolved sharing situations at 5 GHz including protection the international Microwave Landing System (MLS) and Mobile-Satellite (MS) feeder links now operating at 5000-5150 MHz.

There are recognized difficulties in fully protecting existing Radio Astronomy operations. See the CPM Report, Section 2.4.1.3.1: "The separation distance between RNSS (space-to-earth) and the radio astronomy service would be a minimum of 10 MHz to protect Radio Astronomy inside its allocation. This may cause difficulties due to the radio astronomy receiver sensitivity outside the band allocated to the radio astronomy service."

Studies under Resolution **114 (WRC-95)** are continuing and could result in changes in the future use of the 5000-5150 MHz band.

Proposal:

USA/ /1
NOC

4 800-5 830 MHz

Allocation to services		
Region 1	Region 2	Region 3
5 000-5 150	AERONAUTICAL RADIONAVIGATION S5.367 S5.444 S5.444A	

Reasons: ITU-R studies to date do not support the need for an allocation for RNSS at 5 GHz.

Proposals for Agenda Item 1.16

to consider allocations of frequency bands above 71 GHz to the earth-exploration satellite (passive) and radio astronomy services, taking into account Resolution 723

Proposed Changes to Existing Draft Proposal on Agenda Item 1.16

Background Information: The following is a proposed change to the existing draft proposal on Agenda item 1.16 that was unable to be agreed to prior to the December CITEL meeting. The change replaces the portion of the allocation table from 231.5-241 GHz and improves the allocation status of the FSS within this band while affording greater protection to the RAS in adjacent bands as well.

Proposal:

		GHz 231.5 – 238		
		Allocation to Services		
		Region 1	Region 2	Region 3
USA/ 2 MOD	<u>231.5 – 232</u>		FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	
USA/ 3 MOD	<u>232 – 235</u>		FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	
USA/ 4 MOD	<u>235 – 238</u>		EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive)	
USA/ 5 MOD	<u>238 – 241</u>		FIXED FIXED-SATELLITE (space-to-Earth) MOBILE <u>RADIOLOCATION</u> <u>RADIONAVIGATION</u> <u>RADIONAVIGATION-SATELLITE</u> Radiolocation	
USA/ 6 MOD	<u>240 – 241</u>		FIXED FIXED-SATELLITE (space-to-Earth) MOBILE <u>RADIOLOCATION</u> Radiolocation	

Reasons: The tables from 231.5 GHz to 241 GHz are to be replaced as shown. By eliminating the FSS from the band 231.5-232 GHz, a guard band is provided to protect the adjacent radio astronomy service allocation. Similarly, the FSS is deleted from the band 240-241 GHz for the same reason. In order to compensate the FSS for these changes, the FSS allocation from 235-238 GHz, which was deleted in the current draft proposal, is reinstated in that band to result in an overall contiguous FSS downlink allocation of 8 GHz from 232-240 GHz. So that the EESS (passive) does not have the burden of sharing with both the FSS and the FS and MS in the 235-238 GHz band, the terrestrial services have been

eliminated from the band. The overall allocations to the FS and MS in the draft proposal are still more than adequate as compared with the current allocation tables.

Proposals for the Work of the Conference

Modification of RECOMMENDATION 66 (Rev.WRC-97)

Background Information: Recommendation 66 is being modified to reflect the current status of this document. Work has been completed on space service spurious emissions, so we are proposing the suppression of *Considering f, recommends 1 and 2* -. We are editing "*Recognizing I*" to conform to the concept in the *recommends* that limits may be needed for specific situations. We are proposing the suppression of *Recommends 9* because TG1/5 has concluded that OOB emission limits are not appropriate at this time.

USA/ 7
MOD

RECOMMENDATION 66 (Rev.WRC-~~97~~2000)

Reasons: Editorial

Studies of the maximum permitted levels of unwanted emissions

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that Appendix **S3** specifies the maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line;
- b) that the principal objective of Appendix **S3** is to specify the maximum permitted levels of spurious emissions that, while being achievable, provide protection against harmful interference;
- c) that excessive levels of unwanted emissions may give rise to harmful interference;
- d) that while out-of-band emissions can also give rise to harmful interference, the Radio Regulations do not provide general limits for these emissions;
- e) that while Appendix **S3** applies generally to the mean power of a transmitter and its spurious emissions, it also takes account of a variety of emissions where interpretation of the term "mean power", and thus its measurement, would be difficult, particularly in the cases of digital modulation broadband systems, pulsed modulation and narrow-band high-power transmitters;
- ~~f) that while Appendix **S3** covers spurious emissions for all radio services, those listed for space services are included only as design objectives;~~

USA/ 8
SUP

Reasons: Work has been completed on space service spurious emissions.

USA/ /9
(MOD)

~~g)~~ that unwanted emissions from transmitters operating in space stations may cause harmful interference, particularly emissions from wideband amplifiers which cannot be adjusted after launch;

~~h)~~ that unwanted emissions may cause harmful interference to safety services and radio astronomy and space services using passive sensors;

Reason: Consequential numbering changes

USA/ /10
MOD

~~i)~~ that, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix S3 may be required to protect specific services, such as safety services and passive services in specific bands or situations;

Reasons: Edited to conform to the concept in the recommends that limits may be needed for specific situations.

USA/ /11
(MOD)

~~j)~~ that broadband digital modulation may cause unwanted emissions at frequencies far from the carrier frequency,

Reasons: Consequential numbering change

noting

a) that safety services and passive services have in many cases been allocated frequencies adjacent or close to those of services employing high-power transmitters;

b) that some administrations have adopted more stringent limits for spurious emissions than those specified in Appendix S3,

recommends that ITU-R

USA/ /12
SUP

~~1—study, as a matter of urgency, the question of spurious emissions resulting from space service transmissions, and, on the basis of those studies, develop Recommendations for maximum permitted levels of spurious emissions in terms of mean power of spurious components supplied by the transmitter to the antenna transmission line;~~

Reasons: Work has been completed on space service spurious emissions.

USA/ /13
SUP

~~2—submit a report to WRC 99 on the results of its studies with a view to reviewing and including spurious emission limits for space services in Appendix S3;~~

Reasons: Work has been completed on space service spurious emissions.

USA/ /14
(MOD)

~~3~~ continue the study of spurious emission levels in all frequency bands, emphasizing the study of those frequency bands, services and modulation techniques not presently covered by Appendix S3;

Reason: Consequential numbering changes

USA/ 15
(MOD)

42 study the question of unwanted emissions resulting from transmitters of all services and all modulation methods, and, on the basis of those studies, develop a Recommendation or Recommendations for maximum permitted levels of spurious emissions and out-of-band emissions;

Reason: Consequential numbering changes

USA/ 16
(MOD)

53 establish appropriate measurement techniques for unwanted emissions, where those techniques do not currently exist, including the determination of reference levels for wideband transmissions as well as the applicability of reference measurement bandwidths;

Reason: Consequential numbering changes

USA/ 17
(MOD)

64 study the reasonable boundary of spurious emissions and out-of-band emissions with a view to defining such a boundary in Article **S1**;

Reason: Consequential numbering changes

USA/ 18
(MOD)

75 study those frequency bands and instances where, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix **S3** 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;

Reason: Consequential numbering changes

USA/ 19
(MOD)

86 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 limits;

Reason: Consequential numbering changes

USA/ 20
SUP

~~9~~ ~~report to a future competent world radiocommunication conference the results of studies under *recommends that ITU-R 3, 4 and 5* above, with a view to recommending whether or not it is appropriate to include general limits for out-of-band emissions in the Radio Regulations;~~

Reasons: Suppressed because TG1/5 has concluded that OOB emission limits are not appropriate at this time.

USA/ 21
(MOD)

407 report the results of studies under *recommends that ITU-R 6, 7 and 8 4, 5 and 6* above to a competent world radiocommunication conference(s).

Reason: Consequential numbering change

Proposals for the Work of the Conference

Suppression of Resolutions 60 and 63

Background Information: A proposal for the suppression of Resolution 60 is being submitted because this resolution is no longer needed. Resolution 63 is being suppressed because the work of TG1/2 related to this resolution has been completed.

USA/ 22

~~RESOLUTION 60~~

SUP

~~Relating to information on the propagation of radio waves used in the determination of the coordination area~~

Reasons: WP3M provided updated propagation material to TG1/6. Resolution no longer required.

USA/ 23

~~RESOLUTION 63~~

SUP

~~Relating to the protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment~~

Reasons: TG1/2 completed work related to Resolution 63.
