Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
The Commission Seeks Public Comment	)	IB Docket No. 04-286
On Recommendations Approved by the	)	
Advisory Committee for the 2007 World	)	
Radiocommunication Conference	)	

COMMENTS OF THE SATELLITE INDUSTRY ASSOCIATION

The Satellite Industry Association ("SIA") hereby files these Comments in response to the Public Notice in which the Commission requests comments on the most recent set of Executive Branch proposals for Agenda Item 1.20 of the 2007 World Radiocommunication Conference ("WRC-07") dealing with possible regulatory measures for the protection of the Earth Exploration-Satellite Service (Passive) ("EESS-P").[1] SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, remote sensing operators, and ground equipment suppliers. SIA is the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business.[2] SIA is filing these comments to provide an industry-wide consensus perspective on regulatory measures proposed by the Executive Branch.

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[1] *FCC Seeks Additional Comment on Recommendations Approved by the Advisory Committee for the 2007 World Radiocommunication Conference Regarding the Regulatory Measures for the Protection of the Earth Exploration-Satellite Service (Passive) from Unwanted Emissions of Active Services*, Public Notice, DA 06-2262 (rel. Nov. 1, 2006) ("*Notice*").

[2] SIA includes Executive Members: The Boeing Company; The DIRECTV Group; Globalstar LLC; Hughes Network Systems, LLC; ICO Global Communications; Intelsat, Ltd.; Iridium Satellite LLC; Lockheed Martin Corp.; Loral Space & Communications Ltd.; Mobile Satellite Ventures LP; Northrop Grumman Corporation; and SES Americom, Inc.; and Associate Members Eutelsat Inc., Inmarsat Ltd., New Skies Satellites Inc., and Stratos Global Corporation.

SIA appreciates the efforts of the Executive Branch to modify its proposal. Nonetheless, SIA continues to believe that mandatory emission limits are both unnecessary and problematic.

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As the *Notice* acknowledges, the satellite industry (through the WRC-07 Advisory Committee ("WAC")) has already addressed the advisability of adopting limits on out-of-band emissions by active services into bands used by EESS-P.[3] As the WAC noted, the use of mandatory limits for protection against unacceptable interference caused by unwanted emissions "may be without precedent in the [Radio Regulations]," and little (if any) consideration has been given to the impact on the active services involved.[4] The WAC suggested that it was "premature" for the United States to champion the values originally proposed by the Executive Branch. The *Notice* seeks comment on the revised proposal submitted by the Executive Branch "to account for some of the [WAC] recommendations."[5]

Unfortunately, it would appear that the Executive Branch's revised proposal does not include either modification or abandonment of mandatory emission limits. Instead, the principal modification is simply the inclusion of the statement that "the proposals do not require, and no provision is made for, ITU Radiocommunication Bureau examination, or enforcement" of the mandatory unwanted emission levels being proposed by the Executive Branch.[6]

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[3] *Notice* at 1.

[4] *Id.* at Annex II, 4-5.

[5] *Id.* at 2.

[6] *Id.* at Annex III, 8. The revised Executive Branch proposals have also changed the date on which these mandatory limits would become applicable to various services – moving it forward from the effective

SIA continues to share the WAC's concerns with specifying *any* mandatory emission limits in the Radio Regulations. As set forth by the WAC, this is an inadvisable precedent to have set by the ITU. Indeed, from SIA's perspective, it is difficult, once applied in the set of frequency bands identified under WRC-07 Agenda Item 1.20, to ensure that mandatory emission limits are not extended gradually to additional frequency bands in the future.[7]

For example, setting a precedent of protecting EESS-P by imposing mandatory limits would encourage other passive services to seek similar treatment. To see the potential consequences of such a movement, one need only consider the current set of Passive Service allocations in Article 5 of the Radio Regulations (see Table 1, below).

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date of the Final Acts of WRC-07 (presumably 1 January 2009) to 9 November 2007 (the last day of WRC-07). SIA encourages the Commission to pay special attention to this element in its future discussions of the U.S. proposals under Agenda Item 1.20 with NTIA as this date could have a significant impact on systems in the active service. SIA does note, however, that in one instance (for Fixed-Satellite Service earth stations operating in the bands 47.2-50.2 GHz and 50.4-51.4 GHz), the mandatory clear sky limit was increased by 13 dB from the original proposal and an additional 6 dB allowance was made for operations under faded conditions.

[7] The fact that the Executive Branch proposal calls for suppression of the WRC Resolution that led to these studies (*i.e.*, Resolution 738 (WRC-03)) does not eliminate the risk. In fact, were mandatory limits to actually be imposed (and endorsed by the U.S) in certain frequency bands, it would almost certainly result in future proposals from other administrations to expand the list of such frequency bands.

Table 1. Current Passive Service Allocations in Article 5 of Radio Regulations

Light Grey Shading = AI 1.20 bands
Darker Grey Shading = Shared or immediately adjacent to satellite allocation
P=Primary allocation
S=secondary allocation

Frequency Band (MHz)	EESS	RAS	SRS
1400-1427	P	P	P
1660.5-1668		P	P
1668-1668.4		P	P
2655-2670	S	S	S
2670-2690	S	S	S
2690-2700	P	P	P
4990-5000		P	S
Frequency Band (GHz)			
10.6-10.68	P		P
10.68-10.7	P	P	P
15.35-15.4	P	P	P
18.6-18.8	P		S
21.2-21.4	P		P
22.21-22.5	P	P	P
23.6-24	P	P	P
31.3-31.5	P	P	P
31.5-31.8	P	P	P
36-37	P		P
50.2-50.4	P		P
52.6-54.25	P		P
54.25-55.78	P		P
55.78-56.9	P		P
56.9-57	P		P
57-58.2	P		P
58.2-59	P		P
59-59.3	P		P
86-92	P	P	P
100-102	P	P	P
105-109.5			P
109.5-111.8	P	P	P
111.8-114.25		P	P
114.25-116	P	P	P
116-119.98	P		P
119.98-122.25	P		P
148.5-151.5	P	P	P
155.5-158.5	P	P	P
164-167	P	P	P
174.8-182	P		P
182-185	P	P	P
185-190	P		P
190-191.8	P		P
200-202	P	P	P
202-209	P	P	P
217-226		P	P
226-231.5	P	P	P
235-238	P		P
250-252	P	P	P

As Table 1 sets forth, once Administrations allow the ITU-R to establish mandatory emissions limits in certain frequency bands, it will perceive little reason not to do so in a host of other frequency bands that are either shared directly by commercial satellite operators or immediately adjacent to frequency bands allocated to commercial satellite use. Beyond Agenda Item 1.20 itself, this would have a profound impact on satellite systems practically throughout the radiofrequency spectrum. Thus, the fairly discrete proposal in Agenda Item 1.20 would bring about a fundamental change in satellite spectrum management.

Adopting hard emission limits will disproportionately impact services and technologies that implement new satellite spectrum allocations. For example, many Administrations have only recently authorized the implementation of satellite services in V-band (i.e. 40-50 GHz range). For the most part, these networks are not yet in operation. Therefore, there is no experience in the operation of commercial satellite systems in this band, and no understanding of the potential technical and practical considerations of the use of this band that could be affected by hard out-of-band emission limits. At this point of the development of V-band technology, potential users of this band cannot determine what impact hard out-of-band emission limits will have on this nascent service.

Hard out-of-band emission limits cannot easily be modified to account for experience gained in operating new services or technologies that are not yet in place. In essence, hard limits will remain in place and can only be adjusted by future World Radiocommunication Conferences, which due to ITU financial constraints and the decisions taken by the recent ITU Plenipotentiary (Antalya 06), will be less frequent for

the foreseeable future. It is unnecessary to adopt out-of-band hard limits for any frequencies, but doing so may have a disproportionate impact on technologies and services being implemented in newly allocated frequency bands where too many unknown factors make it difficult to gauge their potential impact.

Fortunately, such action is not needed to protect EESS-P. As set forth by the WAC, a solution based on non-mandatory limits – such as that adopted for the protection of the Radioastronomy Service at WRC-03[8] – appears to achieve results comparable to the mandatory limits proposed by the Executive Branch. This being the case, it would be far preferable to specify non-mandatory limits in a WRC Resolution, and to *resolve* that administrations take all reasonable steps to ensure that new systems being implemented meet such limits. Indeed, if the limits advocated by the Executive Branch would have an acceptable impact "(in terms of performance, cost, weight, size, etc.) on systems in the specified frequency bands," and if such systems can "operate without significant modifications to current system design[s]" within those limits,[9] the Executive Branch proposal may be a solution in search of a problem.

In summary, while SIA fully supports the objective of ensuring that the EESS-P service is adequately protected from unwanted emissions of adjacent band active services, it believes that the current set of Executive Branch proposals for WRC-07 Agenda Item 1.20 would unnecessarily set a very dangerous precedent and may well affect the implementation of new services and technologies, particularly those making use of recently allocated spectrum. As such SIA would endorse a solution along the lines of that adopted for the RAS at WRC-03, i.e. a WRC Resolution containing passive

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8 *See* ITU Radio Regs., Res. 739 (WRC 03).

9 *See Notice* at 2.

service protection levels that result in an acceptable impact on active services, with the strongest possible encouragement for administrations to design and operate their systems in compliance with those levels.

Respectfully submitted,

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