

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Allocation and Designation of Spectrum for)	
Fixed-Satellite Services in the 37.5-38.5 GHz,)	IB Docket No. 97-95
40.5-41.5 GHz and 48.2-50.2 GHz Frequency)	RM-8811
Bands; Allocation of Spectrum to Upgrade Fixed)	
And Mobile Allocations in the 40.5-42.5 GHz)	
Frequency Band; Allocation of Spectrum in the)	
46.9-47.0 GHz Frequency Band For Wireless)	
Services; and Allocation of Spectrum in the)	
37.0-38.0 GHz and 40.0-40.5 GHz for Government)	
Operations)	

To: The Commission

REPLY COMMENTS OF PANAMSAT CORPORATION

PanAmSat Corporation (“PanAmSat”), by its attorneys and pursuant to Section 1.415 of the Commission’s rules, 47 C.F.R. § 1.415, hereby replies to the comments that were submitted in the above-referenced proceeding addressing the Commission’s *Further Notice of Proposed Rulemaking*.¹ PanAmSat has a direct interest in the allocation and service rules that the Commission develops for the V-band. It owns and operates a global geostationary orbit fixed-satellite service (“FSS”) system, and has requested authority from the Commission to launch and operate several V-band space stations that will be used to complement its existing services.

¹ Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed And Mobile Allocations in the 40.5- 42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band For Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations, *Further Notice of Proposed Rulemaking*, IB Docket No. 97-95; RM-8811 (rel. May 31, 2001) (“*Further Notice*”).

I. THE COMMISSION SHOULD ADOPT THE WRC-2000 PFD LIMITS FOR THE 37.5-40.0 GHZ BAND.

PanAmSat agrees with other satellite industry commenters that the Commission should adopt the WRC-2000 power flux density (“PFD”) limits for FSS operations.² Like TRW, PanAmSat believes that the changes to PFD levels proposed by the Commission to the limits reflected in Article S21 of the Final Acts are an “unwarranted and potential[ly] dangerous departure” from WRC-2000 agreements.³ PanAmSat questions the logic of the Commission’s proposal to deviate from the decision reached at WRC-2000 regarding the power-control methodology for the 37.5-40.0 GHz band,⁴ and, in particular, opposes the Commission’s proposal to impose a time limit on FSS operators when fade conditions exist in the 37.5-40.0 GHz band.⁵ As TRW noted, because the Commission consistently has supported the WRC-2000 limits in the ITU-R since the Istanbul conference, adopting a contrary standard will create confusion and add to international unhappiness with the clear-sky PFD components of the soft segmentation band plan.⁶

Adoption of the WRC-2000 limits, on the other hand, will conform the U.S. rules to the approach that is likely to be followed internationally, easing the way for global service providers. Having a uniform allocation of spectrum makes for a hospitable technical environment and gives rise to economies of scale for equipment manufacturers, lowering costs and increasing equipment compatibility. PanAmSat does agree with the Commission, however, that the benefits of implementing PFD limits now outweigh any gains in awaiting the final results of WRC-2003.⁷ Adopting the WRC-2000 limits without delay will give satellite operators additional certainty as they develop plans for their systems.

² See Boeing Comments, SIA Comments, Hughes Comments, TRW Comments.

³ TRW at 21.

⁴ See Boeing at 17-18; Hughes at 10-11; TRW at 20-21.

⁵ See TRW at 24-26.

⁶ See TRW at 22.

PanAmSat fully agrees with TRW regarding the need for the Commission to adhere to the more relaxed WRC-2000 PFD limits in Article S21 for fading conditions and to specify that in clear-sky conditions, power control techniques to reduce PFD limits by 12 dB apply only when the FSS satellites serve the United States. As Hughes explains, satellite operators have “every incentive to reduce power when it is not needed to overcome fade conditions.”⁸ The Commission’s proposal would lower PFD limits, but allow operators to increase power by 12 dB during fade conditions, which “leaves satellite operators unacceptably exposed in other countries” where there is no guarantee that the Commission’s rules would be adopted.⁹ Moreover, the Commission’s proposed clear-sky levels effectively could limit FSS operations to larger dish sizes and drier climates.

Additionally, PanAmSat agrees with TRW that the Commission should not place a specific time limit during which FSS links could operate at increased power levels to overcome fade conditions.¹⁰ And PanAmSat finds acceptable TRW’s proposed definition of “fading conditions” as “changes in atmospheric propagation conditions, as compared to a clear-sky baseline, that would degrade the desired satellite-to-Earth station link.”¹¹

⁷ *Further Notice* at ¶ 40.

⁸ Hughes at 10.

⁹ TRW at 24.

¹⁰ See TRW at 24-25.

¹¹ TRW at 25.

II. THE COMMISSION SHOULD NOT ALLOCATE SPECTRUM FOR MSS PRIMARY USE IN THE 40.5-41.0 GHz BAND.

PanAmSat agrees with those commenters who oppose allocating the 40.5-41.0 GHz band for use by the mobile-satellite service (“MSS”) on a *primary* basis, but would not object to a *secondary*, non-government MSS allocation.¹²

Like TRW, PanAmSat opposes a primary allocation of MSS spectrum because FSS and MSS systems are technically incompatible. Among other things, it is inherently difficult to pinpoint interference to FSS systems that originates from mobile sources. Further complicating matters is the fact that FSS operations in the band also may be constrained by the need to protect the radio astronomy services (“RAS”) in adjacent frequencies. For all of these reasons, a primary MSS allocation would compromise the viability of the contiguous 2 GHz of spectrum needed for FSS services, as called for in the WRC-2000 soft segmentation plan. The Commission should not “undermine this [WRC-2000] allocation by adopting an overlapping primary allocation for government MSS use at 40.5-41.0 GHz.”¹³

III. THE COMMISSION SHOULD NOT AT THIS STAGE KEEP FSS SYSTEMS OUT OF THE 42.0-42.5 GHz BAND IN ORDER TO PROTECT RADIO ASTRONOMY IN THE 42.5-43.5 GHz BAND.

The Commission proposes to adopt a modified version of footnote S5.551G to the U.S. Table of Frequency Allocations under which there would not be an FSS allocation in the 42.0-42.5 GHz band. PanAmSat recognizes the Commission’s concerns with out-of-band emissions that could affect the RAS in the adjacent band. However, PanAmSat agrees with TRW that the Commission’s proposals ignore “the pending ITU-R study established by the Final Acts of WRC-2000 into the possible steps radio astronomy can

¹² See Boeing at 16; SIA at 3; TRW at 8; see also Hughes at 9 (FCC should not adopt primary government MSS allocation unless and until government use of that spectrum will not interfere with commercial systems).

¹³ SIA at 3.

take to reduce susceptibility to interference into its sites.” Acting before the ITU-R has completed its study would be premature.

Moreover, as SIA stated, “[i]t is unreasonable for the Commission to accept without question the protection criteria put forth by the radio astronomy community in situations where, as here, meeting those criteria would have a palpable negative impact on adjacent band services, and there is good technical reason to believe that the criteria themselves are overly conservative”¹⁴ As TRW’s initial assessment demonstrates,¹⁵ a more rigorous analysis of RAS protection criteria should yield more bandwidth for non-RAS users. Depending on the type of RAS observations, moreover, unwanted emissions from FSS systems might well be able to meet the actual RAS protection requirements.¹⁶ All of these matters should be explored fully before the Commission establishes protection criteria.

CONCLUSION

PanAmSat commends the Commission for recognizing the importance of implementing the WRC-2000 global sharing arrangements for V-band and strongly supports the adoption of WRC-2000’s soft segmentation plan for terrestrial and satellite services in the 37.0-43.5 GHz band. However, for the reasons set forth herein, PanAmSat: (1) opposes the Commission’s proposals to deviate from the WRC-2000 sharing arrangements and from the particulars of the soft segmentation concept; (2) opposes a primary MSS allocation; and (3) believes it is premature to address the issue of protections for radio astronomy.

Respectfully submitted,

PANAMSAT CORPORATION

¹⁴ SIA at 4.

¹⁵ See TRW at 17.

¹⁶ See TRW at 15- 16; see also Hughes at 11; SIA at 4.

By: /s/ Joseph A. Godles
Joseph A. Godles
Sheryl J. Lincoln

GOLDBERG, GODLES, WIENER & WRIGHT
1229 Nineteenth Street, N.W.
Washington, D.C. 20036
(202) 429-4900
Its Attorneys

October 3, 2001