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June 5, 2003

Re: IB Docket No. 00-248
Ex Parte

FILED ELECTRONICALLY

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
The Portals, 445 12th Street, S.W.
Washington, D.C. 20554

Dear Ms. Dortch:

On June 4, 2003, the following persons met with International Bureau representatives Thomas Tycz, John Martin, Steven Spaeth, Bill Howden, Sylvia Lam, David Ward, Frank Peace, Jr., and Sankar Persaud concerning the above referenced proceeding: the undersigned, representing PanAmSat Corporation (PanAmSat); Sourj Mandharan and Calvin Harriott of Intelsat, Ltd.; Dori K. Bailey of Latham & Watkins LLP, representing Hughes Network Systems, Inc. (HNS); Ken Sahai, Stan Kay and Joslyn Read of HNS; Harry Ng of PanAmSat; David Cavossa of the Satellite Industry Association (SIA); John Stern of Loral Space & Communications, Ltd. (Loral); and Young Lee of Loral's subsidiary, Loral Skynet. PanAmSat, Loral, Intelsat, and HNS are all SIA members.

The points covered in the meeting are reflected in the enclosed summary, copies of which were given to the attendees from the International Bureau.

Ms. Marlene H. Dortch
June 5, 2003
Page 2

Please direct any questions concerning this filing to the undersigned.

Sincerely,

/s/ Joseph A. Godles

Joseph A. Godles
Attorney for PanAmSat Corporation

Attachment

Cc: Thomas Tycz
John Martin
Steven Spaeth
Bill Howden
Sylvia Lam
David Ward
Frank Peace, Jr.
Sankar Persaud

Presentation to the Federal Communications Commission: Part 25 Further Notice of Proposed Rulemaking Earth Station Streamlining

Satellite Industry Association

Docket No. 00-248

June 4, 2003



SIA Proposals to be Further Reviewed by the Commission

The following SIA proposals were filed in response to the Further Notice of Proposed Rulemaking.

Antenna Gain Patterns

1. Routine C-band Earth Station Antenna Size

- SIA proposes to allow routine processing in the conventional C-band of antennas having dimensions in the GSO plane of greater than or equal to 2.4m and less than 4.5m for:
 - SCPC analog carriers up to 200 kHz wide, provided that the maximum power spectral density into the antenna flange does not exceed -12 dB(W/4kHz) , and
 - digital carriers, provided that the maximum power spectral density into the antenna flange does not exceed $-12-10\log(N)\text{dB(W/4kHz)}$.
- To prevent adjacent satellite interference, the applicant certifies that the antenna will not misalign by more than 0.5 degrees.
- Reflected in SIA's proposed rule revisions for Section 25.212.

2. Earth Station Antenna Gain Pattern Within the GSO Plane

- SIA proposes to relax the starting off-axis angle of the antenna gain envelope to facilitate the routine processing of small VSAT terminals transmitting in the 14.0-14.5 GHz band taking into account the nominal achievable pointing accuracy.
- SIA has determined that an antenna transmitting in the 14.0-14.5 GHz band that meets the gain pattern envelope at off-axis angles of 1.5 degrees or less does not cause harmful interference and should not be subject to additional regulation regarding pointing error.
- Thus, as an alternative to the Commission's proposals, SIA proposes to start the off-axis angle of the antenna gain envelope at 1.5 degrees for antennas with dimensions in the GSO plane less than 1.2m, and at 1.25 degrees for antennas with dimensions in the GSO plane from 1.2m to 1.8m, transmitting in the conventional Ku-band. These changes are shown in SIA's proposed Section 25.209 (a)(3).
- SIA also proposes to start the off-axis angle of the antenna gain envelope at 1.7 degrees for antennas with dimensions in GSO plane greater than or equal to 2.4m and less than 4.5m transmitting in the conventional C-band. These changes are reflected in SIA's proposed Section 25.209 (a)(4).

3. Antenna Gain Pattern Envelope Outside the GSO Plane

- SIA supports the Commission's conclusion to adopt an off-axis angle starting at 3 degrees for the conventional Ku-band antenna gain envelope outside the GSO plane.
- This modification will facilitate the routine processing of the elliptical or other asymmetrical antennas as currently being deployed.
- Reflected in SIA's proposed Section 25.209(a)(3).

4. Backlobe Antenna Gain Patterns

- SIA agrees with the Commission's proposal to increase the backlobe antenna gain limit from -10 dBi to 0 dBi for the conventional Ku-band both within and outside the GSO plane.
- SIA continues to recommend that the gain limit should be increased between 85 and 180 degrees off-axis angles.
- Reflected in SIA's proposed Section 25.209(a)(3).

5. Improving Antenna Pointing Accuracy

- SIA opposes the proposals for separate Pilot Tones.
 - Pilot tones are complex and costly, would duplicate functions already performed by a VSAT system's outroute signal, and would reduce the overall spectrum efficiency of VSAT networks.
 - SIA also opposes Aloha Networks' related automatic monitoring proposal which would have negative ramifications for VSATs.
- SIA opposes the proposals for Professional Installation.
 - The measurement equipment and techniques for performing the installation of different companies' equipment will naturally differ and cannot be effectively or responsively regulated.
 - The Commission should continue its policy of requiring professional installation as a license condition which provides flexibility to licensees and the Commission.
- SIA opposes the imposition of Location Identifier Systems.
 - There is no demonstrated need to impose an ATIS-like requirement on Ku-band and C-band antennas.
 - The cost of an ATIS-like system would be highly prohibitive and the effectiveness of such a system would be questionable.
- SIA proposes procedures that would enhance the resolution of interference events when they do occur, which are reflected in SIA's and the Commission's proposed rule revisions in Sections 25.271 and 25.274, in particular 25.274(g), (h) and (i).

Random Access Techniques

1. Contention Protocols

- SIA firmly believes that the Commission need not and should not adopt regulations regarding contention protocols for FDMA, TDMA or CDMA requiring power reduction.
 - Hundreds of thousands of VSAT terminals using Aloha access techniques have been deployed in the Ku-band over the last 20 years without causing harmful interference to adjacent satellite systems.
 - Aloha Networks' claim that interference will become an issue in the future in the Ku-band is purely speculative and unsubstantiated.
 - There has been significant growth in two-way internet based consumer terminals in the past two years without any additional growth in harmful interference.

Contention Protocols (Continued)

- SIA does not support the adoption of new regulations to address an issue that does not exist and with advances in satellite technology may never materialize.
- However, should the Commission proceed to impose unnecessary regulation governing contention protocols, SIA proposes the following modification to the proposal made by the Commission in the FNRPM:
 - *The maximum transmitter power spectral density of a digital modulated carrier into any GSO FSS earth station shall not exceed $-14-10\log(N)$ dB(W/4kHz), where N is an integer. The number N is defined such that, during any 100 millisecond interval, the probability that $Q > N \cdot 100$ milliseconds is less than 0.01, where Q = the accumulated transmission time of all co-frequency simultaneously transmitting earth stations in the same satellite receiving beam. The maximum duration of any single collision is less than 100 milliseconds.*

Contention Protocols (Continued)

- Again, if regulation is pursued, the proposal made by Spacenet/Starband in their reply comments which incorporates the collision probability as a variable would be preferable to the Commission's proposal.
 - However, SIA would modify the Spacenet/Starband proposal such that the probability of transmission collisions is averaged over 100 milliseconds, as in the SIA alternative.
- SIA opposes Qualcomm's system based statistical approach because it is not technology neutral.
 - Qualcomm's proposal is applicable only to contention protocol CDMA systems, and is not applicable to reservation type systems such as TDMA, FDMA, and non-random access CDMA.
 - SIA also opposes Qualcomm's proposal to extend any regulations adopted regarding contention protocols to the Ka-band.

2. TDMA, FDMA and CDMA

- SIA supports the Commission's proposal to exempt Ku-band VSATs using FDMA or TDMA from any rule revisions regarding contention protocol multiple access techniques.
- Ku-band VSATs using FDMA or TDMA multiple access techniques will continue to operate under the power spectrum density limits in the current rules.
- SIA supports the Commission's proposal to modify the CDMA rule as proposed in the NPRM for Ku-band VSAT systems by replacing the term "likely maximum number" with simply "maximum number" based on the comments of Aloha Networks. SIA also supports the application of this modification to the Ka-band CDMA VSAT systems as already adopted in the 18 GHz Order.

3. Extension of Rules to Other Frequency Bands

- SIA agrees that the Commission need not adopt any further rules governing contention protocols such as Aloha for C-band and Ka-band VSAT Systems.
- SIA supports the Commission's proposal to adopt the same rules for VSAT systems in the conventional C-band using CDMA as modified for the Ku-band VSAT systems using CDMA.

4. Single Channel per Carrier

- SIA supports the Commission's proposal to revise Section 25.212 to apply the same rules to SCPC transmissions as proposed for the VSAT networks.

5. Grandfathering of Requirements

- SIA strongly supports the grandfathering of existing VSAT systems and equipment should the Commission adopt any rules to govern multiple access techniques using contention protocols, and opposes the adoption of the rules as proposed by the Commission in the FNRPM on existing VSAT systems.

VSAT Hub EIRP

- SIA proposes to use the input power spectral density of -14.0 dBW/4kHz into the VSAT hub antenna flange as a per carrier limit rather than using the current maximum VSAT hub EIRP of 78.3 dBW as a limit.
- The VSAT hub EIRP limit of 78.3 dBW is applied on the basis that the hub is accessing only a single transponder under clear sky conditions.
- In today's environment, VSAT operators could be accessing multiple transponders from a single antenna and therefore the *total* hub EIRP might not be limited to 78.3 dBW.
- SIA believes that implementing a limit on input power spectral density is a much more effective way of controlling and regulating potential adjacent satellite interference from VSAT hubs than utilizing a limit of VSAT hub EIRP.

Streamlined Procedures for Non-Routine Earth Stations

- SIA proposes alternatives to the Commission's proposals for non-routine earth stations.
- SIA proposes to limit Section 25.220 to non-conforming transmit earth station operations in the C-band and the Ku-band.
- SIA proposes to require coordination for applicants that reduce transmit input power density levels to compensate for a non-conforming C-band or Ku-band transmit antenna (*i.e.*, an antenna with sidelobes that exceed the $29-25 \log(\theta)$ standard).
- SIA proposes that all transmit/receive antennas will be routinely processed if the transmit portion of the antenna meets the antenna gain patterns of Section 25.209(a) and (b), and will be protected from interference in accordance with Section 25.209(c).
- SIA proposes that all receive-only antennas will be routinely processed regardless of the gain pattern of the antenna, and will be protected from interference in accordance with Section 25.209(c).
- SIA strongly urges the Commission to clarify that, for purposes of determining whether an antenna is eligible for routine processing, the receive pattern of that antenna is irrelevant.

Streamlined Procedures for Non-Routine Earth Stations (Continued)

- SIA proposes streamlined processing for antennas with dimensions smaller than 1.2m in the Ku-band that meet the 25.209 antenna gain envelope at a starting angle greater than 1.5 degrees, but no more than 1.8 degrees off-axis, as long as the antenna complies with the specific antenna pointing requirements SIA is proposing for Section 25.220 (as set forth below) or the applicant submits a coordination agreement.
 - *The required maximum antenna pointing error (pe) toward the desired satellite shall not exceed:*
 $pe = 2 - x, \text{ degrees} \quad 1.5 < x \leq 1.8$
where x is the starting point of the antenna gain envelope of the antenna

Video, Wideband, and Narrowband Power Limits

- SIA recommends that the power limits of Section 25.211 apply only to analog video transmissions, and the power limits of Section 25.212 apply to narrowband analog transmissions and digital transmissions.
- SIA believes that there is no need for definitions for wideband and narrowband transmissions.
- SIA proposes the following definition for Full Transponder:
 - *Radio emissions or transmissions that occupy, or nearly occupy, the entire satellite transponder power and/or bandwidth.*

Elliptical Antennas

- SIA recommends that the Commission use the dimension of the antenna in the GSO plane wherever the diameter of the antenna is mentioned in the Commission's rules.
- An elliptical antenna with a 1.2m major axis dimension will have a better off-axis main lobe performance (*i.e.*, lower value of off-axis angle at the main lobe intersection point with the reference gain pattern) than a 1.2m circular diameter antenna, due to the reduction in on-axis beam gain for the elliptical antenna.
- The actual major axis dimension of an elliptical antenna will be greater than the equivalent diameter of the antenna.
- SIA supports the use of the antenna gain pattern rule instead of the minimum antenna size for determining eligibility for routine processing.

Maximum GSO FSS Satellite EIRP Spectral Density Limit

- Based on footnote 30 in the FNPRM, SIA understands that the Commission has a sufficient record to adopt the SIA proposal to increase the maximum downlink EIRP spectral density to 9 dBW/4KHz from the current level of 6 dBW/4KHz for routine processing of both VSAT and individual earth station applications in the 12/14 GHz band.
- SIA proposes to further increase the maximum downlink EIRP spectral density to 13 dBW/4KHz for routine processing of both VSAT and individual earth station applications in the 12/14 GHz band provided that such power level is coordinated with adjacent satellites.

Verification of Earth Station Antenna Performance Standards

- Based on footnote 30 in the FNPRM, SIA understands that the Commission has a sufficient record to adopt the SIA proposal to exclude the Ka-band from the Commission's proposed earth station antenna performance verification standards of Section 25.132.

SIA Proposals with a Sufficient Record for the Commission to Review

The following SIA proposals were filed in response to the Notice of Proposed Rulemaking. The Commission did not seek further comment on these proposals in the Further Notice of Proposed Rulemaking.

VSAT License Renewals

- SIA opposes the Commission's proposal to limit renewals of VSAT licenses to the number of units installed at the time of renewal.
- The Commission's proposal would require the submission of unnecessarily duplicative applications to recover authority that has already been granted and would seriously impair the operator's ability to grow its business after renewal.

Multiple Hub Stations in a VSAT Network

- SIA supports the Commission's proposal to permit multiple hub stations under a single VSAT license.

Temporary Fixed VSAT Stations

- SIA supports the Commission's conclusion to permit temporary fixed earth stations to be licensed as a temporary fixed VSAT network or as part of a traditional VSAT network in the non-shared bands.

Foreign-Licensed Satellites and International VSAT Networks

- SIA supports the Commission's proposal to make the VSAT licensing rules consistent with the policies adopted in DISCO I and DISCO II by permitting applicants to request a VSAT license to provide both domestic and international service, and to access both U.S. and foreign-licensed satellites.

Earth Station Filing Forms

- SIA supports the Commission's proposal to adopt a streamlined version of the existing Form 312, to be designated Form 312-EZ, that would permit routine C-band and Ku-band earth station applications to be completed more easily and processed pursuant to the Commission's new "auto-grant" policy.
- SIA proposes to extend the use of the new Form 312-EZ to earth station applications in the Ka-band.
- SIA also supports the Commission's proposal to adopt new Form 312-Schedule S to obtain data regarding space station applications provided that, in addition to providing the basic information requested by Form 312-Schedule S, satellite applicants have the option to provide more detailed information (along with explanatory text and drawings) in the narrative portions of their applications.

Satellite Control Responsibilities to Resolve Harmful Interference

- SIA supports the Commission's proposal to amend Section 25.274(g) to clarify that earth station operators are permitted to contact the control centers for the satellite systems with which they communicate in cases of harmful interference, and to rely on the satellite operator to contact the control centers of potentially interfering satellite systems to resolve the interference.

Construction of Space Stations and Earth Stations

- SIA supports the Commission's proposal to amend Section 25.113 to state explicitly that prior authorization for construction of space stations and earth stations is not required.

INTELSAT Privatization

- SIA supports the Commission's proposal to eliminate the reference in Section 25.117(a)(1) to coordination under Article XIV(d) of the INTELSAT Agreement in connection with the privatization of INTELSAT and the requirements of the ORBIT Act.

Clarifying the Distinction between Major and Minor Modifications

- SIA supports the Commission's proposal to amend Sections 25.117 and 25.118 to clarify the distinction between major and minor modifications.

Applying Power Limits to Other Bands

- SIA opposes the Commission's proposal to apply the power limits in Section 25.211 and Section 25.212 to earth stations applying to operate in bands other than the C-band and the Ku-band.
- SIA considers that the unique circumstances of each frequency band warrant exploration and identification, through an open rulemaking proceeding, of the appropriate technical rules for each band.

Authorization to Operate in Multiple Frequency Bands

- SIA proposes to require only one application when an applicant seeks authorization for an earth station to operate in more than one frequency band.

Receive-Only Earth Stations Seeking to Communicate with Foreign Satellites on the Permitted Space Station List

- SIA proposes to eliminate or modify Section 25.131(j) to permit receive-only earth stations to communicate with non-U.S. licensed satellites on the Permitted Space Station List without obtaining a separate license.

Pro Forma Application Rules

- SIA proposes that the Commission utilize grant stamp procedures to authorize *pro forma* satellite and earth stations transfers of control and assignments of authorizations.

Power Down Requirement

- SIA recommends deleting the power down requirement in the current Section 25.134(c) of the Commission's Rules.
- The substance of the current Section 25.134(c) is set forth in Section 25.220 which provides that “if no good faith agreement can be reached between the satellite operator and the operator of a future 2 degree compliant satellite, the earth station operator shall reduce its power to those levels that would accommodate the 2 degree compliant satellite.”
- SIA believes that provisions regarding non-compliant antennas are more appropriately set forth in Section 25.220.