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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of	)	
	)	
Rulemaking to Amend Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service	)	IB Docket No. 96-220

To: The Commission

REPLY COMMENTS OF E-SAT, INC.

E-SAT, Inc., by its attorneys, hereby submits its reply comments in the above-referenced proceeding. The initial comments received indicate significant potential for a productive resolution to this proceeding which will enable the prompt licensing of additional non-voice, non-geostationary MSS systems. As further outlined herein, the applicants are close to reaching an agreement that would resolve mutual exclusivity among their applications. These reply comments provide specific recommendations as to how the Commission can adopt rules which will achieve these objectives.

I. The Commission Should Adopt Rules that Accommodate an Additional CDMA System

E-SAT urges the Commission to adopt rules accommodating CDMA MSS systems which will operate at power levels so low that they will not cause interference to other systems. The Commission recognized in licensing the first-

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round CDMA system, that sharing among CDMA systems is possible.[1] E-SAT's system is unique among the pending applicants in that its spread spectrum operation allows it to avoid mutual exclusivity with any other proposed or licensed NVNG MSS system. In order to avoid the undesirable result that E-SAT's application is delayed because of the mutual exclusivity of *other* applications, E-SAT proposes that the Commission adopt rules to accommodate spectrum-efficient CDMA systems. This will avoid mutual exclusivity for at least one of the pending second round applicants and enable the prompt licensing of E-SAT. To facilitate the adoption of the proposal made in its Comments, E-SAT has attached as Appendix 1 to this pleading proposed amendments to the Commission's rules which will allow the Commission to make such a grant. Alternatively, if the Commission does not believe a specific rule is required, it can adopt a policy in its Report & Order to accomplish the same goal.

None of the other comments in this proceeding reject E-SAT's proposal to accommodate an additional CDMA system. None of the alternative band plans or sharing scenarios proposed by the other applicants conflict with E-SAT's CDMA proposal. In fact, by agreeing to operate in a manner that does not interfere with other systems, E-SAT has taken a significant step toward resolving the remaining mutual exclusivity among the other applicants. In adopting rules that allow the licensing of an additional CDMA system in a way that does not preclude the use of spectrum by other systems, the Commission will maximize competition and allow shared use of the allocated spectrum.

To this end, the Commission should license immediately any proposal that is not mutually exclusive with that of any other application. Moreover, if the

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[1] Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum for Fixed and Mobile Satellite Services for Low-Earth Orbit Satellites, 8 FCC Rcd 1812 (1993) ("Little LEO Order") at ¶ 9.

Commission uses a competitive bidding process to assign licenses, it cannot include spread-spectrum systems such as E-SAT's in this process, since this systems is not mutually exclusive with those of other applicants.

A. The Commission Should License as Many Applicants as Possible.

The record developed in this proceeding, including the two market analyses submitted by commenting parties, support licensing multiple applicants.[2] The Commission itself recognized this policy in the Notice: "It is Commission policy to attempt to provide spectrum to as many applicants as possible in order to increase competition and the provision of service to the public."[3]

The Commission should not depart from this well-grounded, time-tested policy by attempting to determine market demand for certain types of services and the system characteristics needed to serve this demand. Although several comments indicated a wide variety of potential markets for Little LEO services, there is simply no conclusive information available about these markets. The Commission should allow consumers to determine which types of systems should survive and should refrain from pre-ordaining market conditions by setting aside spectrum for certain types of systems.[4]

B. There Should Be No "Set-Aside" for Near Real-Time Systems.

The Commission must reject the proposal of LEO One to set aside spectrum for a near-real time system. Leo One has not demonstrated that such an approach

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[2] See Comments of Final Analysis Communications Services, Inc., filed December 20, 1996, at Exhibit 1, p. 4; Comments of Leo One USA Corp., filed December 20, 1996, at Appendix A, pp. 28-29.

[3] Notice of Proposed Rulemaking, IB Docket 96-220 (Released October 29, 1996) at ¶ 1.

[4] See Comments of E-SAT, Inc. at 9 (citing the successful application of this policy to Domsat, Big LEO and first round Little LEO licensing).

will advance the interests of consumers. Moreover, such an approach would further delay, rather than expedite, the resolution of this processing round.

Leo One asserts that in order to ensure competition in the Little LEO industry, a second round NVNG MSS licensee "must have the technical capability to compete with first round licensees."[5] This claim, however, rests on an assumption that the primary demand for Little LEO services will require systems possessing near-real time capabilities.[6] This assumption must be rejected because neither the applicants nor the Commission know what service application (or applications) will generate the greatest demand for Little LEO services. The economic studies submitted provide only general overviews of potential markets for Little LEO services and no concrete information about market demand. The comments demonstrate simply that there will be a diverse market requiring a variety of system types and capabilities. They do not provide a basis for assessing the magnitude of potential demand for near-real time services.

In addition, regardless of the amount of spectrum licensed to a proposed individual system, *none* of the systems will be capable of providing near-real time service for several years. In order for a system to be considered near-real time, it must ensure that at least one satellite from its system is within view of any given user at any point within its coverage area. Given the unavoidable time constraints of implementing a sufficient number of satellites to provide near-real time service, including production start-up, construction and launch, as well as the time required to design and build sufficient numbers of user terminals and earth stations, no near-real time system could be operational before 2002 - 2003.

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[5] Comments of Leo One USA Corp. at 26.

[6] Id. at 27.

The proposal of Leo One to have a near-real time system set-aside is based on the assumption that such a set-aside is needed due to the current short-term scarcity of spectrum. Such a set-aside is unnecessary and inappropriate since by the time such a system is operating, it is quite likely that additional allocations will have been achieved. If the Commission adopts Leo One's proposal, it will have precluded or reduced competition overall in the provision of Little LEO services. The Commission can best serve the public interest by accommodating as many systems as possible and letting market forces determine the mix of service availability, time delay and service cost. Then, the Commission and the applicants should work together to obtain additional global spectrum allocations.

II. The Commission Should Facilitate the Settlement Efforts of the Applicants

The second-round NGSO MSS applicants have achieved substantial progress towards resolving mutual exclusivity and are close to arriving at a mutually agreeable settlement. The level of agreement achieved so far is quite significant. The applicants have reached preliminary agreement on the following matters:

(1) sharing with a low-power spread-spectrum system;
(2) sharing of feeder links;
(3) sharing of uplinks; and
(4) sharing of downlinks for two of the three second-round FDMA systems.

The only issue on which agreement has not been reached is sharing of downlinks between two FDMA systems in the 400.15 - 401 MHz band. A proposed frequency sharing plan, which outlines the band plan on which the negotiations have been based, is attached as Appendix 1.

In furtherance of this effort, E-SAT and Final Analysis have proposed in their Comments on Motion for Deferral filed by CTA and Leo One in this

proceeding that the Commission hold a working meeting by February 12, 1997. The purpose of this meeting would be to:

(1) review any industry agreements that have been achieved by that date;

(2) allow the applicants to explain any concerns about sharing or other technical criteria as well as the technical basis for those concerns; and

(3) clarify substantive and procedural issues concerning the amendments.[7]

Such a meeting could provide all parties concerned with the opportunity, information and incentive to reach a final agreement to resolve mutual exclusivity.

In addition, E-SAT supports inclusion of the first-round applicants' requests for 50 kHz of additional spectrum for feeder links. E-SAT does not believe these requests will interfere with settlement negotiations since, as outlined in the Comments of GE Starsys, sharing of feeder links is easily accomplished through geographic separation.[8] The Commission should free up the 149.9 - 150.05 MHz band for feeder links and accommodate the limited additional feeder link requirements of the first-round applicants.

A settlement provides the Commission a convenient vehicle for resolving several vexing issues. Facilitating negotiations would be a much more productive and effective use of both the Commission's and the applicants' resources than utilizing competitive bidding, and is likely to lead to the most expeditious resolution to this proceeding.

The proposal outlined in the attached band plan, and discussed by the second-round applicants in their settlement negotiations, essentially adopts the Commission's proposed band plan with minor modifications. An extensive

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[7] Comments on Motion for Deferral, filed January 8, 1997 at 2.

[8] Comments of GE Starsys Global Positioning Inc. and GE American Communications, Inc. (filed December 20, 1996) at 4.

revisiting of the sharing criteria for the proposed bands would not be required. In addition, the proposal would allow the licensing of all applicants, including the first round. This would not only maximize competition and allow the market, rather than the Commission, to determine winners and losers, it would also preserve maximum participation of companies in the WRC-97 preparatory process. Such participation is needed to ensure additional allocations for both first and second-round licensees, which will ensure the long-term vitality of the Little LEO industry. Finally, arriving at a settlement will also avoid the legal challenges that are likely to result if the Commission proceeds to an auction or excludes first round licensees.[9] Choosing a path that is sure to result in delay cannot be in the public interest, especially when a much more expeditious path is open to the Commission.

If, after attempting to facilitate negotiations, mutual exclusivity remains among two or more applicants, the Commission should proceed immediately to grant any non-mutually exclusive applications. Those applicants that cannot resolve mutual exclusivity should not be allowed to delay initiation of service to the public. If no alternative remains, the Commission may still auction the licenses which remain mutually exclusive, but it should allow any non-mutually exclusive applicants to proceed with implementation of their systems. The Commission adopted this approach in licensing Big LEOs with great success.[10]

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[9] E-SAT notes that the gravity of the auction issue prompted three non-NVNG MSS interests to file comments in this proceeding arguing against the use of auctions. See Comments of Iridium L.L.C., filed December 20, 1996; Comments of L/Q Licensee, Inc.., filed December 20, 1996; Comments of the Satellite Industry Association, filed December 20, 1996. The Commission has not received a *single* comment in this proceeding supporting auctions. Instead, every single submission supported use of alternatives to auctions.

[10] See Big LEO Rules Reconsideration Order, FCC 96-54 (released February 15, 1996) (affirming the Commission's decision to allow three applicants to proceed while other applications that had not met the Commission's financial qualifications remained pending).

This same approach should be applied to Little LEOs.

Auctions are not a licensing tool of first resort. Section 309(j) imposes on the Commission a continuing obligation to encourage negotiated solutions to mutual exclusivity.[11] In order to assist the Commission in this regard, and in the spirit that has helped the satellite industry achieve its current unprecedented level of success, the second round applicants have invested substantial time and effort trying to reach a negotiated settlement that will avoid mutual exclusivity.

Given the extent of agreement that has already been reached among the parties, the Commission should encourage the finalization of a negotiated resolution to this proceeding. E-SAT is confident that, with the encouragement of the Commission, a negotiated resolution can be reached. In accordance with § 309(j)(6)(E), the Commission should first try to assist the applicants in reaching a negotiated settlement.

III. The Record Supports Allocating and Assigning WRC-95 Spectrum in This Proceeding, and Limiting Future Allocations to Current Licensees and Applicants.

The comments universally support bringing WRC-95 allocations into this processing round.[12] There is simply no reason for the Commission to continue to withhold this spectrum from the public over 14 months after it was allocated to NVNG MSS, especially given the severe scarcity of spectrum to accommodate the pending applications. No new proposals or requests for this spectrum were made in the comment period. Presumably, if there were any parties interested in this

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[11] 47 U.S.C. § 309(j)(6)(E).

[12] See Comments of CTA at 26; Comments of E-SAT at 14; Comments of Final Analysis Communication Services at 29; Comments of GE Starsys at 12; Comments of Leo One USA Corp. at pp. 37-37; Comments of Orbital Communications Corp. at 44.

spectrum, or in starting a new processing round, they would have filed. There is no support in the record for not allocating and assigning this spectrum immediately, but there is significant support *for* immediate allocation and assignment.

E-SAT and others have provided compelling reasons and legal justification for limiting access to future allocations to current licensees and applicants.[13] The Commission should ensure the future vitality of the Little LEO industry by taking steps to reserve any future allocations obtained at WRC-97 for the interests that participate in obtaining these allocations, namely, the current licensees and applicants.

As E-SAT proposed in its initial comments, this policy can best be implemented through the use of partial license grants. The Commission should not attempt to dispose of the pending applications in their entirety. Rather, after assigning spectrum segments to licensees based on their proposed system characteristics (such as modulation), the Commission should maintain the applications on file so that additional spectrum can be assigned to this processing round if more allocations are made at WRC-97.

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[13] See Comments of CTA at pp. 26-27; Comments of E-SAT at pp. 15-16; Comments of Final Analysis Communication Services at pp. 32-33; Comments of GE Starsys at 13; Comments of Leo One USA Corp. at pp. 37-38; Comments of Orbital Communications Corp. at pp. 44-46.

IV. Conclusion

For the foregoing reasons, the Commission should adopt rules consistent with the proposals made in these Comments and move swiftly to license the pending processing round. In addition, the Commission should license any non-mutually exclusive applications as soon as licensing and service rules are adopted and conforming amendments are filed.

Respectfully submitted,

E-SAT, Inc.

By: Leslie A. Taylor
Guy T. Christiansen
Leslie Taylor Associates, Inc.
6800 Carlynn Court
Bethesda, MD 20817

Its Attorneys

Dated: January 13, 1997

Appendix 1

Proposed Revision to Part 25 of the Commission's Rules

Appendix 1

Proposed Revision to Part 25 of the Commission's Rules

25.142(d) Grant of Non-Mutually Exclusive Applications. Any application which demonstrates that it can operate in the bands allocated to NVNG MSS at a power flux density of -150 dbW/m^2/4kHz or lower measured on the ground, can be considered non-mutually exclusive. Such applicants must otherwise be found qualified under the relevant Commission rules before receiving a license.

25.142(e) Code Coordinating Among CDMA Systems. Among code division multiple access (CDMA) spread spectrum licensees, licensees must disclose to each other all information necessary for coordination, including the identification of code families, the pre-selected codes and maximum number of simultaneous transmissions in a service area.

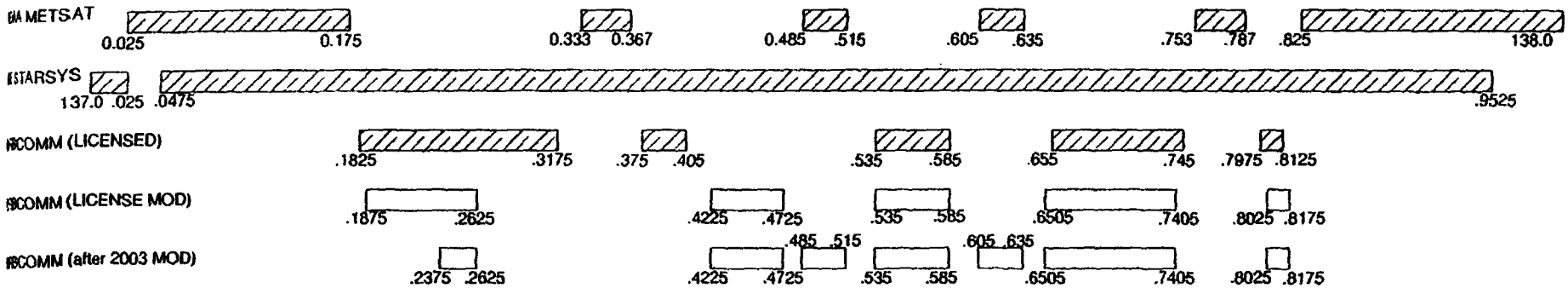
25.142(f) Coordination Threshold. Any space station operating at a power flux density at or below -150 dbW/m^2/4kHz measured at the Earth's surface is not required to coordinate with other users of the NVNG MSS bands that do not meet this criteria.

25.135(e) Coordination Threshold. Any earth station operating at a power flux density at or below -150 dbW/m^2/4kHz measured at a spaceborne receiver is not required to coordinate with other users of the NVNG MSS bands that do not meet this criteria.

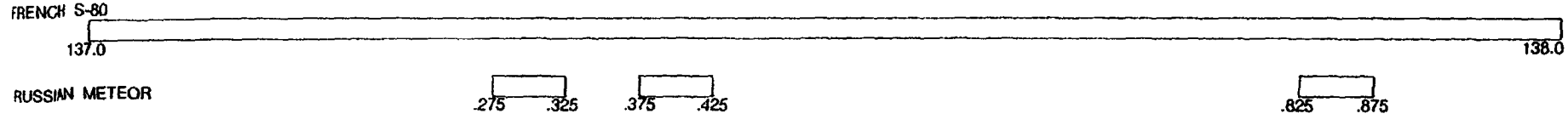
Appendix 2

Draft Frequency Sharing Plan

CURRENT LICENSEES



CURRENT FOREIGN LICENSEES / APPLICATIONS



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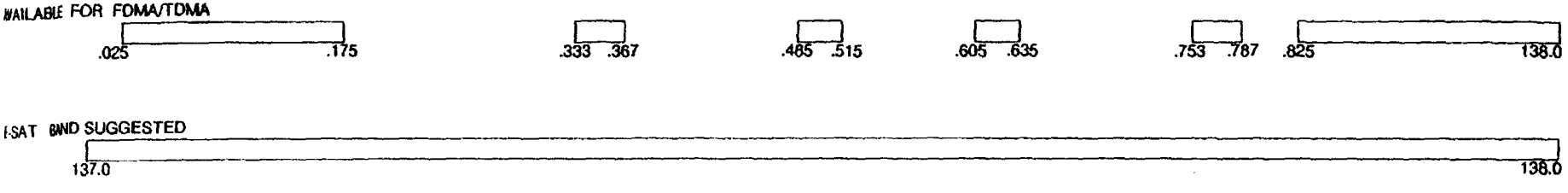
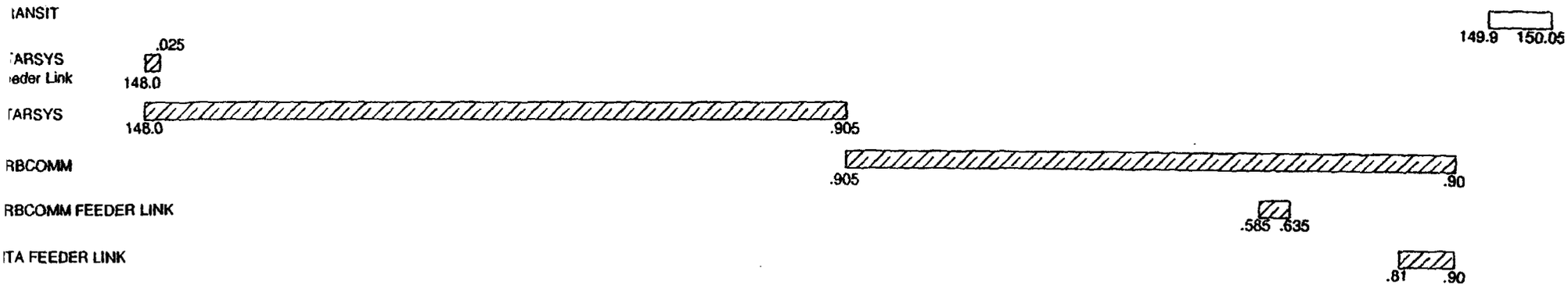
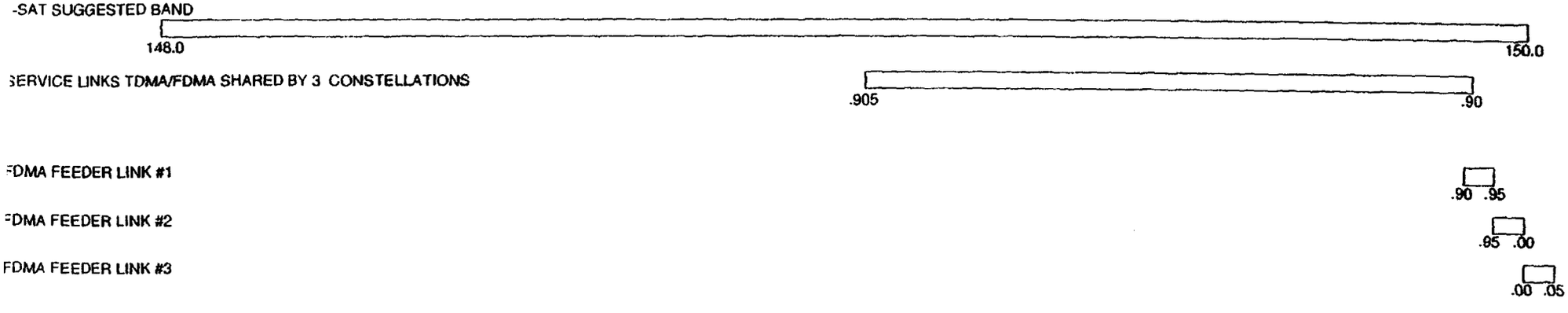


CURRENT LICENSEES



CURRENT FOREIGN LICENSEE

CURRENTLY AVAILABLE FOR U.S. APPLICANTS



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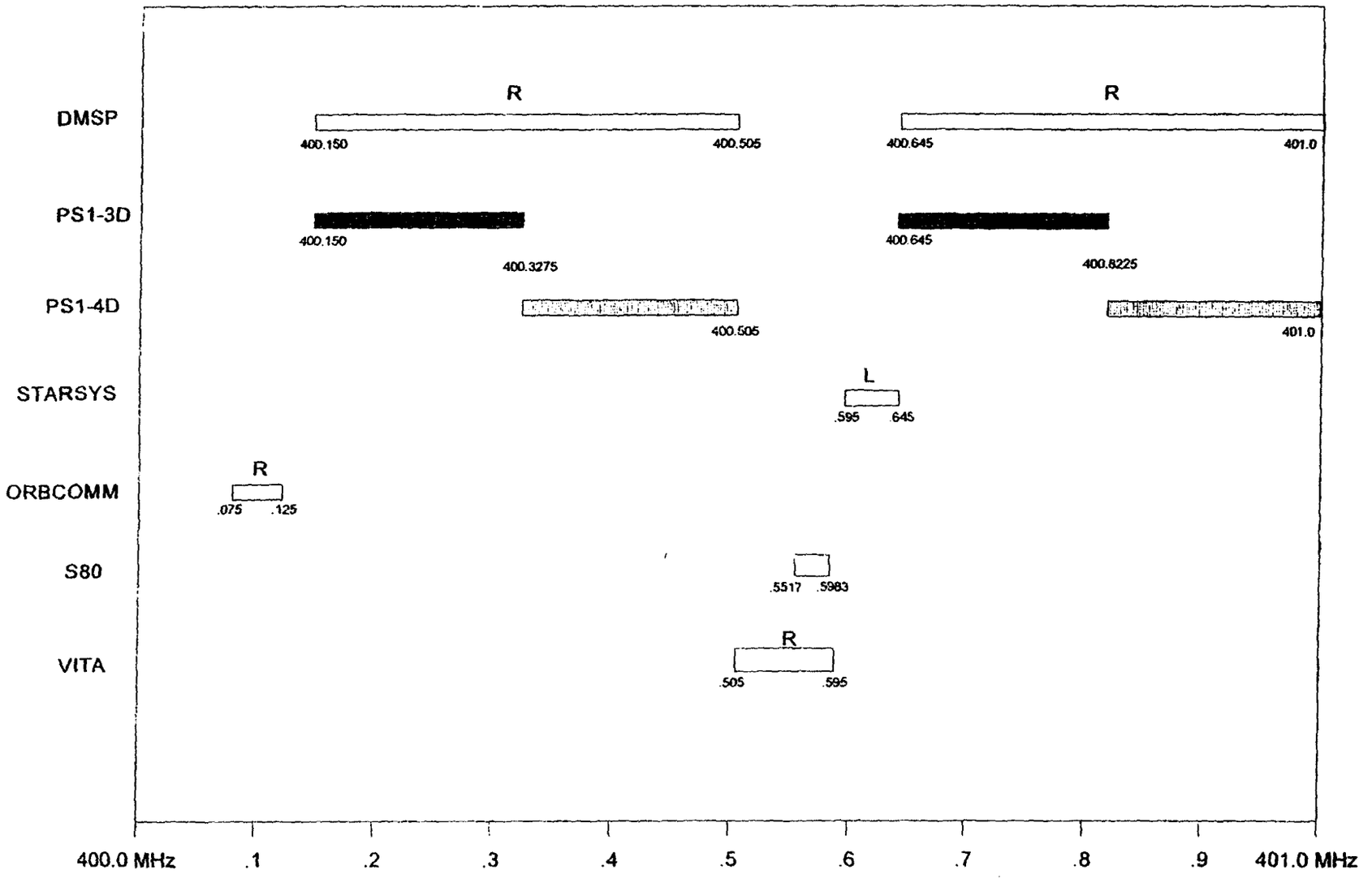
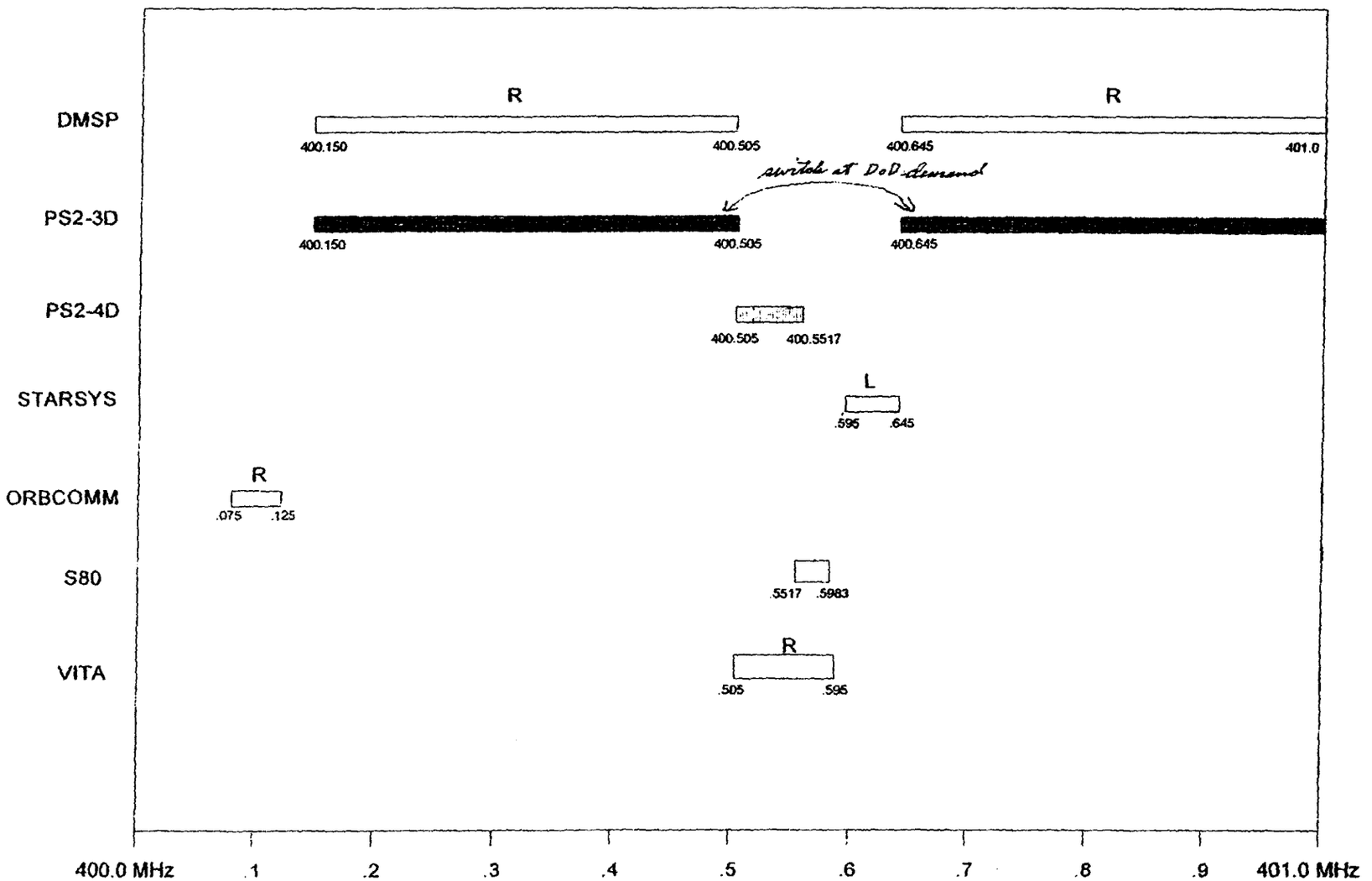
400.0 - 401.0 MHz Downlink Band



R: RHCP
L: LHCP

4. these systems must be able to change frequency from one of two proposed channels (per system) to the other channel (of the same system)

Final Analysis Alternative proposal 2
400.0 - 401.0 MHz Downlink Band



R: RHCP
L: LHCP

4. these systems must be able to change frequency from one of two proposed channels (per system) to the other channel (of the same system)

Certificate of Service

I, Andrew Taylor, do hereby certify that copies of the foregoing "Reply Comments of E-SAT, Inc." were sent on this 13th day of January 1997, by first-class mail, postage prepaid to the following persons:

Thomas S. Tycz, Division Chief
Satellite & Radiocommunication
Division, International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 811
Washington, D.C. 20554

Cecily C. Holiday
Deputy Division Chief
Satellite & Radiocommunication
Division
Federal Communications Commission
2000 M Street, N.W. Room 520
Washington, D.C. 20554

Harold Ng, Branch Chief
International Bureau
Federal Communications Commission
2000 M Street, N.W.
Room 512
Washington, D.C. 20554

Paula H. Ford
International Bureau
Federal Communications Commission
2000 M Street, N.W.
Room 502A
Washington, D.C. 20554

Donald H. Gips, Chief
International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 830
Washington, D.C. 20554

Damon C. Ladson
Satellite & Radiocommunications Div.
International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 803
Washington, D.C. 20554

James M. Talens
Satellite & Radiocommunications Div.
International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 513
Washington, D.C. 20554

Joslyn Read
Satellite 7 Radiocommunications Div.
International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 818
Washington, D.C. 20554

Karen Kornbluh
International Bureau
Federal Communications Commission
2000 M Street, N.W. Suite 800
Washington, D.C. 20554

Fern J. Jarmulnek
Satellite Policy Branch
International Bureau
Federal Communications Commission
2000 M Street, N.W. Room 518
Washington, D.C. 20554

Chairman Reed E. Hundt
Federal Communications Commission
1919 M Street, N.W. Room 814
Washington, D.C. 20554

Commissioner Susan Ness
Federal Communications Commission
1919 M Street, N.W. Room 832
Washington, D.C. 20554

Commissioner James H. Quello
Federal Communications Commission
1919 M Street, N.W. Room 802
Washington, D.C. 20554

Commissioner Rachelle B. Chong
Federal Communications Commission
1919 M Street, N.W. Room 844
Washington, D.C. 20554

International Transcription Services
2100 M Street, N.W.
Suite 140
Washington, D.C. 20037

Albert Halprin, Esq.
Stephen L. Goodman
Halprin, Temple & Goodman
Suite 650 East
1100 New York Avenue, N.W.
Washington, D.C. 20005

Henry Goldberg
Joseph Godles
Goldberg, Godles, Wiener & Wright
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Phillip L. Spector
Paul, Weiss, Rifkind, Wharton & Garrison
1615 L Street, N.W. Suite 1300
Washington, D.C. 20036

Philip V. Otero
GE American Communications, Inc.
Four Research Way
Princeton, NJ 08540-6644

Peter Rohrbach
Julie Barton
Hogan & Hartson
555 13th Street, N.W.
Washington, D.C. 20004

Robert A. Mazer
Albert Schuldiner
Vinson & Elkins, L.L.P.
The Willard Office Building
1455 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-1008

Patricia A. Mahoney
Iridium
1401 H Street, N.W.
Washington, D.C. 20005

Bill Gamble
NTIA
Department of Commerce, Room 4099
14th & Constitution Avenue, N.W.
Washington, D.C. 20230

William T. Hatch
NTIA
Department of Commerce, Room 4076
14th & Constitution Avenue, N.W.
Washington, D.C. 20230

Clayton Mowry
Satellite Industry Association
225 Reinekers Lane
Suite 600
Alexandria, VA 22314

William D. Wallace
Crowell & Moring LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Andrew F. Taylor