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November 14, 1991

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, NW
Washington, D.C. 20554

Re: Ellipsat Corporation (RM No. 7805)
Constellation Communications, Inc. (RM No. 7771)
TRW, Inc. (RM No. 7773)
American Mobile Satellite Corp. (RM No. 7806)

Dear Ms. Searcy:

On behalf of Ellipsat Corporation, I am transmitting herewith an original and nine copies of its Reply Comments with respect to the above-referenced petitions for rulemaking.

Should there be any questions concerning this matter, kindly communicate with the undersigned.

Very truly yours,

Jill Abeshouse Stern

Jill Abeshouse Stern

Enclosures

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of the Petitions of	
ELLIPSAT CORPORATION	RM No. 7805
CONSTELLATION COMMUNICATIONS, INC.	RM No. 7771
TRW, INC.	RM No. 7773
AMERICAN MOBILE SATELLITE CORPORATION	RM No. 7806
For Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for, and to Establish Other Policies Relating to Satellite Systems in the RDSS Bands.	

REPLY COMMENTS OF ELLIPSAT CORPORATION

ELLIPSAT CORPORATION

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November 14, 1991

TABLE OF CONTENTS

		Page
SUMMARY		ii
I.	INTRODUCTION AND SUMMARY	1
II.	A RULEMAKING PROCEEDING IS NOT REQUIRED AND WOULD DELAY INTRODUCTION OF NEW, INNOVATIVE SERVICES.	4
III.	AMSC'S PETITION SHOULD BE DISMISSED UNDER COMMISSION RULE 1.407.	6
IV.	THE CONSTELLATION APPROACH TO L-BAND ALLOCATIONS IS UNWORKABLE.	10
V.	CONCLUSION	12

SUMMARY

In these reply comments, Ellipsat Corporation responds to the comments and oppositions of other parties concerning the rulemaking petitions of Ellipsat, the American Mobile Satellite Corporation, TRW, Inc. and Constellation Communications, Inc.

Ellipsat restates its view that rulemaking is not required in the present context. The Commission can and should avoid onerous rulemaking proceedings, if possible, through a waiver approach. A waiver approach would expedite service to the public, consistent with the existing RDSS rules. Only if the Commission concludes that a waiver is not feasible should it proceed to a limited rulemaking as proposed by Ellipsat and TRW.

The comments of Loral, Constellation and Motorola provide justification for dismissal of AMSC's petition. AMSC's petition is a blatant attempt to "grab" unneeded spectrum for its exclusive use, and to prevent or delay introduction of new mobile satellite services. AMSC has provided no concrete reasons for the major rule amendments it seeks. In contrast the LEO satellite systems would offer clear public interest benefits, including competitive provision of service by multiple system operators and development of new communications

technologies, with only minor "adjustments" of the existing rules.

Ellipsat shares the view of Constellation, and others, as to the importance of preserving multiple entry in the RDSS bands. However, Ellipsat is concerned that the Constellation proposal, to grant as little as 2 MHz of L-Band spectrum for initial systems, would be unworkable and does not achieve the benefits of spread spectrum envisioned for the RDSS bands. The Commission should reject this approach, while encouraging applicants to explore other means of accommodating multiple systems in the RDSS bands.

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For Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for, and to Establish Other Policies Relating to Satellite Systems in the RDSS Bands.	

REPLY COMMENTS OF ELLIPSAT CORPORATION

Ellipsat Corporation ("Ellipsat"), by its attorneys, submits the following reply comments with respect to the above-captioned petitions for rulemaking filed by Ellipsat, TRW, Inc. ("TRW"), Constellation Communications, Inc. ("Constellation") and American Mobile Satellite Corporation ("AMSC").

I.
INTRODUCTION AND SUMMARY

The Commission has invited comment on the rulemaking petitions filed by Ellipsat, TRW, Constellation and AMSC, respectively. Each of the rulemaking petitions seeks amendment of the Commission's rules to permit expanded use of the RDSS

frequency bands: 1610-1626.5 MHz and 2483.5-2500 MHz.[1] Having carefully reviewed the comments and oppositions filed October 16, 1991 with respect to the above-captioned rulemaking petitions, Ellipsat offers the following reply comments.

First, as Motorola correctly points out in its comments, rulemaking is not required in the present context.[2] The Commission has authority to grant Ellipsat's application and to permit combined position determination/mobile voice services in the RDSS bands without a formal amendment of the existing rules.[3] The Commission can and should avoid the lengthy and time-consuming rulemaking urged by other parties, if at all possible, through the waiver process. A waiver approach would serve the public interest by expediting introduction of new, innovative communications services to the public.

Second, Ellipsat urges that the Commission strike, as wholly irrelevant, the comments of Motorola and AMSC with regard to applicant qualifications and other extraneous matters. It is well-established, by Commission rule and case law, that the sole issue before the Commission in the context of rulemaking

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[1] Additional rulemaking petitions were subsequently filed by Motorola Satellite Communications, Inc. and Loral Qualcomm Satellite Services, Inc. Neither of these petitions has been placed on public notice. The Motorola and Loral petitions are, therefore, beyond the scope of these reply comments and will be addressed separately at the appropriate time.

[2] See Motorola Comments at 6-10.

[3] See Petition for Rulemaking of Ellipsat Corporation at 3-4, n.5 and cases cited therein.

petitions is whether the "petition discloses sufficient reasons in support of the action requested to justify institution of a rulemaking proceeding."[4] The qualifications of particular applicants are not relevant in this context and are properly considered in connection with the application process.[5] Contrary to applicable precedent, AMSC and Motorola have wrongly used their comments on the rulemaking petitions to launch an inappropriate (and unjustified) attack on the qualifications of particular applicants, including Ellipsat.

Third, Ellipsat agrees with the comments of Loral, Constellation and Motorola that AMSC's petition must be dismissed.[6] As those parties correctly point out, AMSC's petition, which seeks allocation of the RDSS bands to AMSC for system expansion, is wholly inconsistent with important Commission policies, particularly the Commission's policy favoring open and multiple entry in the RDSS bands. Indeed, AMSC has not shown any valid reason for the major revision of the RDSS rules that it proposes. That revision would benefit AMSC exclusively and deny the benefits of new technologies and services to the public.

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[4] 47 C.F.R. §1.407.

[5] See, e.g., FM Channel Assignments, 63 R.R. 2d 259, 263 (1987).

[6] See, e.g., Loral Comments at 2-8; Constellation Comments at 3-6; Motorola Comments at 10-12.

Fourth, Ellipsat supports the views expressed by Constellation and others as to the need to preserve multiple entry polices in the RDSS bands.[7] The Commission can achieve this important objective by seeking a technical solution that accommodates the greatest number of systems. In Ellipsat's view, the spread spectrum approach will achieve this objective and is consistent with existing rules. Ellipsat is concerned, however, that Constellation's allocation proposal, to grant as little as 2 MHz of L-band spectrum for initial systems, would be unworkable. This approach appears to be incompatible with other proposed users, and is based on an outmoded SCPC/FDMA access technique. The Commission should reject this proposal, while encouraging other means of accommodating multiple systems in the RDSS bands.

II.
A RULEMAKING PROCEEDING IS NOT REQUIRED AND WOULD DELAY INTRODUCTION OF NEW, INNOVATIVE SERVICES

In its rulemaking petition, Ellipsat strongly recommended that the Commission avoid onerous rulemaking proceedings if at all possible. Such proceedings would delay implementation of new service to the public. As Ellipsat has previously pointed out, the Commission's authority to proceed by waiver is well-established, and is appropriately utilized under the present

[7] See Constellation Comments at 7.

circumstances.[8]

In its comments, Motorola supports Ellipsat's view that rulemaking is not essential to authorize mobile voice and data services in the RDSS bands. Motorola also agrees that rulemaking could inhibit introduction of new technologies and services. As Motorola points out, "[a]ny rulemaking proceeding to reallocate the spectrum could last for several years, during which time the RDSS frequencies would continue to be underutilized, to the detriment of the public."[9]

Ellipsat endorses a waiver approach, as the most expeditious means of implementing service to the public. However, if the Commission should conclude that a waiver is not appropriate, Ellipsat urges the Commission to proceed with a limited rulemaking along the lines proposed by Ellipsat and TRW.[10] The rulemaking sought by Ellipsat and TRW is narrowly defined and would be an evolutionary, not revolutionary, step that preserves the "fabric" of the RDSS rules.

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[8] See Ellipsat Petition for Rulemaking at 3-4, n.5 and cases cited therein. See also ELLIPSO™ II Application, filed June 3, 1991, at 48-49.

[9] Comments of Motorola at 8.

[10] Ellipsat's concerns about the Constellation approach are detailed below at pp. 10-11.

III.
AMSC'S PETITION SHOULD BE DISMISSED UNDER COMMISSION RULE 1.407

In order to justify rulemaking, a petitioner must demonstrate "sufficient reasons in support of the action requested to justify the institution of a rulemaking proceeding."[11] As the comments make clear, AMSC's petition fails to meet this threshold showing and should be dismissed for that reason alone. It bears emphasis, however, that an even higher burden of proof is placed on a party, like AMSC, who seeks rulemaking to set aside the Commission's prior public interest determinations with respect to the RDSS band, including those relating to the benefits of spread spectrum.[12]

AMSC seeks to justify its request for assignment of the RDSS frequencies on the grounds that (1) the spectrum is needed for mobile satellite service expansion; (2) AMSC can use the additional spectrum efficiently; and (3) there is no point to preserving an RDSS allocation.[13] None of these claims justifies the action sought by AMSC, for reasons that are fully discussed in the comments of Loral, Constellation and Motorola and reviewed below.

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[11] 47 C.F.R. §1.407.

[12] See, e.g., WWHT, Inc. v. FCC, 656 F.2d 807, 819 (D.C. Cir. 1981).

[13] AMSC Petition at 15-19.

AMSC provides no evidence that it truly needs the RDSS spectrum for expansion purposes.[14] To the contrary, as Loral points out, AMSC "seeks to add more spectrum to its monopoly service even before it has commenced operations."[15] Similarly, Constellation questions why AMSC is seeking additional spectrum for its own use where it "has no satellites in orbit, has no customers, is providing no service to the public, and is still in the process of defining its system."[16]

There is sufficient spectrum available or proposed to meet AMSC's present and foreseeable needs. In addition to its existing authorization in the upper L-Band for 27 MHz of spectrum, AMSC has applied for 33 MHz of spectrum in the maritime bands. Moreover, in connection with WARC-92, the FCC has proposed more than 40 MHz of additional spectrum suitable for future expansion of AMSC's system. Given this abundance of spectrum, there can be no serious contention that AMSC needs the RDSS frequencies it seeks.

AMSC's claim that it can use the RDSS spectrum more efficiently is similarly without merit. As Ellipsat and others have pointed out, true efficiency is achieved where multiple

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[14] AMSC explicitly rejected the RDSS bands, as recently as December 1990, as unsuitable for its purposes. See AMSC Comments in Gen. Docket No. 89-554, filed December 3, 1990 at 17. AMSC there opposed allocation of the RDSS bands for MSS use on the grounds that "[t]he RDSS bands ... present substantial impediments to an effective MSS allocation."

[15] Loral Comments at 5.

[16] Constellation Comments at 3.

systems can be accommodated in the same spectrum allocation, not where one system, like AMSC, uses multiple frequency bands for its exclusive operations. As Constellation notes, AMSC's operation "is not an efficient use of spectrum when new LEO systems are technically capable of providing up to thousands of channels while producing even lower levels of interference than AMSC."[17] The Commission itself has recognized that spread spectrum provides an inherently efficient means of allocating spectrum resources on a demand basis.[18]

Ellipsat agrees with AMSC's statement that the market cannot support a satellite system devoted exclusively to position location.[19] Yet, contrary to AMSC's implication, this fact fails to provide sufficient reason for AMSC's exclusive use of the RDSS band. As Motorola points out, "there still is significant unmet demand for RDSS."[20] All of the "large" LEOS have proposed to combine position determination with other services, in contrast to AMSC. Indeed, the fact that five companies have proposed to offer combined voice/position location services in the RDSS bands is evidence of demand as Constellation, among others, points out.[21]

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[17] Id.

[18] See, e.g., RDSS Licensing Order, 60 R.R.2d 298, 304, 306, n.35 (1986).

[19] AMSC Petition at 18.

[20] Motorola Comments at 24.

[21] See Constellation Comments at 2-3.

In sum, neither AMSC, nor any other party, has offered any valid reason for the exclusive allocation of RDSS frequencies that AMSC seeks.[22] In its Opposition, AMSC seeks to obscure this critical omission by vigorous attacks on other applicants, including Ellipsat, TRW and Constellation, and their system designs. AMSC's comments are irrelevant to the rulemaking issue before the Commission, and should be totally disregarded.[23] Ellipsat intends to comment fully on AMSC's Technical Appendix, when it responds to any comments on the ELLIPSO™ II application, and reserves the right to do so at that time. In the meantime, however, it is sufficient to note that AMSC's Technical Appendix is based upon questionable assumptions and factual errors that invalidate AMSC's conclusions.[24] These and other deficiencies

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[22] While the National Academy of Sciences (NAS) has indicated a preference for AMSC's proposal, that preference does not "save" AMSC's proposal. Naturally, NAS would prefer to avoid any operations whatsoever in the 1610.6-1613.8 MHz band. However, this extreme approach is not necessary to protect the radioastronomers. Ellipsat has indicated that it will fully afford radioastronomy sites whatever level of protection may be required. In its July 3, 1991 Opposition (at pp. 27-31), Ellipsat specifically addressed the concerns expressed by NAS with respect to radioastronomy operations. As ELLIPSO™ there detailed, its system can protect the radioastronomers through such techniques as space-and-frequency separation, e.g., by locating fixed ground control stations outside the six zones centered on the radioastronomy sites.

[23] See FM Channel Assignments, 63 R.R.2d 259, 263 (1987).

[24] For example, AMSC's analysis of ELLIPSO™ power requirements ignores the basic fact that LEO systems are operational only when illuminating the served area, while recharging in other parts of that orbit. Additionally, in its link parameter analysis of ELLIPSO™, AMSC purposely uses a worst case scenario (i.e. the lowest elevation angle) for its calculations. A travelling LEO satellite would, however, successively place users at various elevation angles. Perhaps

require dismissal of AMSC's petition as urged by Loral and Motorola, among others.[25]

IV.
THE CONSTELLATION APPROACH TO L-BAND ALLOCATIONS IS UNWORKABLE

In its petition for rulemaking, Constellation proposes rule amendments which would allocate 2 MHz of L-band spectrum to each applicant. Ellipsat endorses Constellation's efforts to develop a technical means of accommodating multiple systems in the L-band, and shares Constellation's desire to preserve open entry in the RDSS bands. However, as other parties have pointed out, the Constellation approach is unduly restrictive and would

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most troubling is the way in which AMSC confuses numbers from the ELLIPSO™ I link parameters filed on November 5, 1990, the ELLIPSO™ I Technical Clarification of January 30, 1991 and the ELLIPSO™ II application, when it is convenient to do so. (See, e.g., Table 13).

[25] Contrary to Commission Rule 1.401(c) which requires a petition to set forth the text or substance of the proposed rule, AMSC has not provided any guidance whatsoever as to what technical or other amendments would be required to support its proposal. This omission is significant because it obscures the fact that a radical revision of the RDSS rules would be required by AMSC's proposal, in contrast to the proposals of Ellipsat and others which are "evolutionary" in nature. Ellipsat has previously noted other deficiencies in AMSC's petition, including the combination of multiple requests for relief in one pleading in violation of Commission Rule 1.44. See Opposition of Ellipsat Corporation to Petitions, and Reply to Comments, filed July 3, 1991 at 23, n.49. As noted in Ellipsat's Opposition, this combination of pleadings effectively placed the burden on other parties to sort through AMSC's various arguments, and distinguish between its rulemaking petition and its attacks on specific systems.

potentially limit system capacity.[26]

Ellipsat has reviewed the Constellation petition and has found little justification for this allocation approach. Indeed, as far as Ellipsat can determine, a primary reason for Constellation's approach is a desire to use SCPC/FDMA access in order to limit radiation from the mobile terminals. However, the RF power of the Aries terminal is 2 watts with a minimum gain of 2.5 dBi. This radiation concern would therefore appear to be an insignificant reason for the restrictive scheme that Constellation proposes.

Ellipsat therefore urges the Commission to reject Constellation's plan as unworkable, while encouraging the applicants to explore other means of accommodating multiple systems in the RDSS bands.[27]

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[26] Motorola Comments at 16.

[27] To the extent that Ellipsat's proposal to operate feeder links in the RDSS bands may limit use of those bands by other systems, Ellipsat has expressed a willingness to consider different frequency bands for feeder links. As Ellipsat has repeatedly pointed out, use of the RDSS frequencies for feeder links presents certain benefits in terms of system design, including a less complex satellite design and reduced satellite cost. This approach would provide licensees with the flexibility to design the most cost-effective system possible. However, Ellipsat developed this approach before there was any evidence that other systems would be interested in the bands, and has subsequently expressed willingness to relocate its feeder links to another band if the Commission should so direct.

V.
CONCLUSION

For the reasons set forth above, Ellipsat urges the Commission to take the following actions: (1) grant Ellipsat's requested waiver of the RDSS rules to permit the expanded services that Ellipsat seeks to provide; (2) if such waiver is denied, initiate rulemaking along the lines proposed by Ellipsat as necessary to permit the provision of combined voice and position determination services in the RDSS bands; (3) dismiss AMSC's petition for rulemaking; and (4) otherwise act accordingly with the views expressed herein.

Respectfully submitted,

ELLIPSAT CORPORATION

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November 14, 1991

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing Reply Comments of Ellipsat Corporation was mailed via first-class mail, postage prepaid, on this 14th day of November, 1991, to the following:

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