Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of the Applications of	)	
	)	
Ellipsat Corporation	)	File No. 11-DSS-P-91(6)
	)	
	)	
Motorola Satellite Communications, Inc.	)	File Nos. 9-DSS-P-91(87)
	)	CSS-91-010
	)	

REPLY COMMENTS
OF
AMERICAN MOBILE SATELLITE CORPORATION

American Mobile Satellite Corporation ("AMSC"), by its attorneys, hereby replies to the comments filed June 3, 1991 in response to the Commission's Public Notice concerning the above-referenced applications of Ellipsat Corporation ("Ellipsat") and Motorola Satellite Communications, Inc. ("MSCI").[1/] As discussed below, many of the June 3 comments support AMSC's position that there are serious problems with the Ellipsat and MSCI applications. The comments and the applications filed on the same day also support AMSC's position that the frequencies in question should be reallocated from the Radiodetermination Satellite Service ("RDSS") to the Mobile Satellite Service ("MSS").

1/ Public Notice, Report No. DS-1068, DA 91-407 (April 1, 1991).

Background

Ellipsat and MSCI have applied to construct satellite systems that would provide mobile voice and position location services. Ellipsat's Ellipso I system would consist of six small satellites operating in the 1610-1626.5/2483.5-2500 MHz bands. MSCI's Iridium system would be a constellation of 77 satellites that would operate with uplinks and downlinks in the 1610-1626.5 MHz band. Both Ellipsat and MSCI have requested various waivers of the Commission's RDSS licensing rules.

In its June 3 Petition, AMSC urged the Commission to deny the Ellipsat and MSCI applications because they are technically deficient and speculative. AMSC demonstrated that the proposed systems would violate existing domestic and international limits on the power of RDSS systems in these bands; cause harmful interference to existing users of the bands; suffer serious reliability problems because they would experience frequent and prolonged outages; and are characterized by questionable financing. AMSC urged the Commission to allocate to MSS ten megahertz of the RDSS uplink bands (1616.5-1626.5 MHz) and assign the frequencies to AMSC to help meet the international spectrum shortage in the L-band.[2/]

2/ More than 35 MSS satellites are competing to use the 28 MHz that the Commission has assigned to AMSC. See Comments of AMSC, Gen. Docket No. 90-56, Technical Appendix (May 11, 1990).

Several other entities also filed in opposition to Ellipsat and MSCI. Because of the potential for interference to the Radio Astronomy service in the 1610.6-1613.8 MHz band, the National Academy of Sciences ("NAS") filed petitions to deny both applications. NAS states that Ellipsat and MSCI have not demonstrated that their systems can meet the requirements established for RDSS uplink sharing with Radio Astronomy in the 1610.6-1613.8 MHz band and that MSCI's proposed downlinks in the band also would be incompatible with radio astronomy operations. In addition, NAS questions the feasibility of MSCI's proposal not to operate in the portion of the RDSS uplink band used by radio astronomy. According to NAS, transmissions from MSCI's satellites in cells that do not directly cover a radio astronomy site would leak into adjacent cells that do include radio astronomy sites.

TRW, Inc. and Hughes Aircraft Company ("Hughes"), two leading satellite manufacturers, raise serious questions about the complexity and cost of the fundamental technology proposed by MSCI.[3/] TRW states that it will be extremely difficult to construct and launch a system with 77 satellites, particularly since each of the satellites proposed by MSCI will require complex on-board computer processing to control the frequent cell-to-cell handoffs and maintain the intersatellite links. Petition of TRW, pp. 2-3. Hughes presents an extensive analysis

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3/ A subsidiary of Hughes Aircraft Company, Hughes Communications Mobile Satellite Services, Inc., is a part-owner of AMSC.

that shows that a geostationary satellite system with three satellites could provide all of the services that the $3.5 billion MSCI system is designed to offer, and do so more efficiently, at a far lower cost, using existing technology. Hughes recommends that the bands be allocated to MSS and assigned to AMSC, which is deploying geostationary satellites.

Both Hughes and Communications Satellite Corporation ("Comsat") suggest that the Commission should consider the issues raised by the Ellipsat and MSCI applications in the context of a notice and comment rulemaking. Comsat notes that the MSCI proposal raises broad policy, technical and operational issues that will affect the future design and operation of both LEO and geostationary satellite systems. Comsat states that the Commission should carefully consider the international implications of the MSCI system, including its relationship to Inmarsat and Intelsat.

MSCI and Ellipsat challenge the feasibility of each other's applications. Ellipsat states that MSCI's proposed bidirectional operation in the 1610-1626.5 MHz band will preclude other users from operating in the band. Ellipsat Petition to Deny or Dismiss, pp. 9-10, Appendix A. MSCI points to serious coverage problems with the Ellipso I system and claims that Ellipsat's satellites are physically unstable. MSCI Petition to Dismiss and/or Deny, p. 16.

The only support for the MSCI proposal is in a number of letters that discuss the utility of a global mobile telephone and

broadcasting service. See e.g., Letters of The Christian Science Monitor, Hispanic Information & Telecommunications Network, Inc., GLOSAS/USA.

The only proponent of maintaining the existing allocation is RDSS, Inc., an entity with no apparent existing operations and unspecified ownership. RDSS, Inc. claims that a grant of the Motorola and Ellipsat applications would be premature and would cripple the ability of new entities to offer RDSS. According to RDSS, Inc., it intends at some unspecified time in the future to seek FCC authority to provide RDSS.

Two other parties filed comments expressing concern about the demise of RDSS. The Drug Enforcement Administration ("DEA"), which had been using the interim Geostar system, is concerned about its investment in Geostar mobile terminals. GTE Spacenet, which is authorized to carry three RDSS payloads for the now-bankrupt Geostar Corporation, claims that any new licensees authorized to operate in the 1610-1626.5 MHz band should be required to coordinate with GTE Spacenet.

In addition to the comments and petitions filed concerning the above-referenced applications, five applications were filed on June 3, 1991, in response to the cut-off established by the Commission concerning use of the RDSS band.[4/] These applications

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4/ AMSC comments on those applications here only to the extent that the applications relate to the issue of spectrum allocations. AMSC reserves the right to file additional comments on the applications at such time as the Commission places the applications on public notice.

were filed by AMSC, Ellipsat (for an Ellipso II system), Constellation Communications, Inc., Loral Cellular Systems, Corp. ("Loral"), and TRW. All of the proposed systems are designed primarily to provide mobile voice services only and to provide position location services on a secondary basis. Moreover, all of the proposed systems would operate at power levels that substantially exceed the Commission's limits for RDSS systems.[5/]

Subsequent to the June 3 filings, the Commission issued its Report concerning preparations for the 1992 World Administrative Radio Conference ("WARC"). In the Report, the Commission recommends substantial new allocations for MSS, including all but one of the bands proposed by AMSC in its application.[6/] In addition, on June 28, 1991, Geostar Corporation, the only RDSS licensee, failed to inform the Commission of its intention to comply with its milestones, as required in a recent order; thus, its RDSS authorization is now subject to being cancelled. See Geostar Positioning Corporation, Memorandum Opinion and Order, 6 FCC Rcd 2776 (1991), para. 18.

5/ AMSC has proposed a power limit in the 1616.5-1626.5 MHz band for MSS systems that is higher than the limit for RDSS systems. Comments of AMSC, Gen. Docket No. 89-554, at Technical Appendix (April 12, 1991). The higher limit for MSS systems is feasible in the upper 10 MHz of the band because there is no need to share with radio astronomy or radio navigation satellite systems, including Glonass, and because AMSC will not operate outside North America.

6/ Report, Gen. Docket 89-554, FCC 91-188 (June 20, 1991).

Discussion

As discussed above, a number of comments were filed which raise serious questions about the technical feasibility of the proposed systems. By and large, AMSC concurs with the comments of NAS, TRW, Hughes, Comsat, Motorola and Ellipsat. Furthermore, there is no meaningful support for the Ellipsat and MSCI applications. As noted above, the letters filed in support of MSCI are not so much supporting a particular MSS system as they are supporting the concept of MSS.

The comments and applications also provide no compelling reason to maintain the RDSS allocation. A market for RDSS simply has not materialized. Geostar Corporation, the last remaining RDSS licensee, is bankrupt. The new applicants all are proposing MSS systems, relying heavily on mobile voice and data applications, and offering position location service only on an ancillary basis. There are three proposals that would decouple the existing RDSS uplink and downlink bands.[7/] In addition, all of the proposed systems would violate the EIRP limit in the 1610-1626.5 MHz band and (to the extent they propose operations in the band) the PFD limit in the 2483.5-2500 MHz band.

The Commission's Report concerning the 1992 WARC provides further support for AMSC's proposed MSS allocations. In the Report, the Commission notes the "spiraling demand" for MSS, and, as a result of this demand, proposes new allocations for

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7/ See Applications of AMSC, Motorola and Loral.

geostationary MSS systems totalling 118 MHz, including the bands currently allocated for RDSS.[8/] These new MSS allocations include all but one of the bands proposed by AMSC in its Petition.[9/]

The only advocate for the existing allocation appears to be RDSS, Inc. RDSS, Inc. claims that it will file an application with the Commission to provide RDSS on existing space segment. However, to date, no application has been filed. Moreover, even if someone were to file a true RDSS application, there is no sound public policy reason to maintain an allocation that for so many years has been virtually unused.[10/] The marketplace has spoken loudly and clearly about the absence of any demand for a stand-alone RDSS system.

There is also no basis for GTE Spacenet's claim that its RDSS payloads have given it some kind of permanent right to operate in the 1610-1626.5 MHz band. The Commission authorized these payloads only so that Geostar could provide an interim service until its dedicated system was launched. Order and

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8/ The proposed new allocations include the 1525-1530 MHz, 1610-1626.5 MHz, 2110-2130 MHz, 2160-2180 MHz, 2390-2430 MHz, and 2483.5-2500 MHz bands. In addition, the Commission proposed a footnote allocation to MSS in the 1850-1990 MHz band that is intended for LEO systems, but may be used by geostationary systems as well. Report, Gen. Docket No. 89-554, para. 57.

9/ The Commission has not proposed an MSS allocation in the 1515-1525 MHz band, instead noting that some portion of the 1435-1525 MHz band may be allocated for digital audio broadcasting. Id., para. 73.

10/ Before its demise, Geostar claimed to have only 130 customers using its interim system. Geostar Positioning Corporation, 6 FCC Rcd 2776 (1991), para. 27.

Authorization, 1 FCC Rcd 1163 (1986). The Commission has ruled that the payloads could not be substituted for Geostar's dedicated system. Memorandum Opinion, Order and Authorization, File No. 1480-DSS-MP/ML-87, paras. 17-19 (August 28, 1987). Accordingly, there should be no requirement that new licensees in the 1610-1626.5 MHz band coordinate with GTE Spacenet.

As DEA points out, there will be some dislocation experienced by those companies and government agencies that invested in equipment to be used with the Geostar system. Geostar-system terminals do not appear to be compatible with any of the new systems that have been proposed. There are relatively few such Geostar customers, however, and they and hundreds of thousands of other, prospective MSS customers will benefit from the reallocation of the RDSS spectrum to MSS. Such a reallocation will permit the development of a more financially viable satellite system that offers a wider variety of mobile services than Geostar was able to offer.

Conclusion

Based on the foregoing, AMSC continues to urge the Commission to dismiss or deny the applications of Ellipsat and MSCI, and grant AMSC's Petition for Rulemaking.

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DECLARATION

I, Michael Ward, under penalty of perjury, do hereby declare as follows: I have reviewed the foregoing Reply Comments of American Mobile Satellite Corporation. The facts contained therein are true and correct to the best of my knowledge and belief.

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CERTIFICATE OF SERVICE

I, Ruth E. Davis, a secretary in the law offices of Gurman, Kurtis, Blask & Freedman, Chartered, do hereby certify that on this 3rd day of July, 1991, a copy of the foregoing "Reply Comments of American Mobile Satellite Corporation" was sent by U.S. first class mail, postage prepaid to:

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