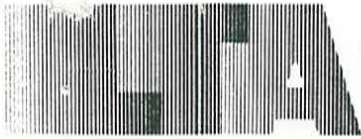


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JUN 24 1992

Federal Communications Commission
Office of the Secretary



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RECEIVED June 24, 1992
JUN 25 1992
DOMESTIC FACILITIES DIVISION
SATELLITE RADIO BRANCH

Ms. Donna Searcy
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: Applications to construct satellites to operate in the RDSS bands, File Nos. 19-DSS-P-91(48) and CSS-91-014, 15-DSS-MP-91 and 16-DSS-MP-91, 9-DSS-P-91(87) and CSS-91-010, 17-DSS-P-91(48) and CSS-91-013, **11-DSS-P-91** and 18-DSS-P-91(18), 20-DSS-P-91(12) and CSS-91-015.

Dear Ms. Searcy:

Attached are an original and the required copies of the "Comments" of Loral Qualcomm Satellite Services, Inc. on Motorola Satellite Communications, Inc. "Petition for Expedited Action".

Please contact the undersigned should you have any questions.

Sincerely yours,

Leslie A. Taylor

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JUN 24 1992

Before the
FEDERAL COMMUNICATIONS COMMISSION Federal Communications Commission
Washington, D.C. 20554 Office of the Secretary

In the Matter of:)
)
LORAL QUALCOMM SATELLITE) File Nos. 19-DSS-P-91 (48)
SERVICES, INC.) CSS-91-014
)
AMSC SUBSIDIARY CORP.) File Nos. 15-DSS-MP-91
) 16-DSS-MP-91
)
MOTOROLA SATELLITE) File Nos. 9-DSS-P-91 (87)
COMMUNICATIONS, INC.) CSS-91-010
)
CONSTELLATION) File Nos. 17-DSS-P-91 (48)
COMMUNICATIONS, INC.) CSS-91-013
)
ELLIPSAT CORPORATION) File Nos. 11-DSS-P-91 (6)
) 18-DSS-P-91 (18)
)
TRW INC.) File Nos. 20-DSS-P-91 (12)
) CSS-91-015
)
For Authority to Construct RDSS)
and Mobile Satellite Systems)
)
_____)

**Comments of Loral Qualcomm Satellite Services, Inc.
on Motorola Petition for Expedited Action**

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EXECUTIVE SUMMARY

The Commission should set aside Motorola's proposal to utilize frequency bands in addition to the RDSS bands for the LEO MSS/RDSS systems other than its own. The RDSS bands were allocated at WARC-92 for first generation LEO MSS/RDSS systems. The pending applications, including Motorola's, should be licensed to use the entire uplink and downlink RDSS bands.

The additional spectrum proposed for use by Motorola, e.g., the 1675-1710 MHz and 1599.5-1610 MHz bands are allocated to and used by important other services, in the United States and throughout the world. The 1675-1710 MHz band is allocated for meteorological- satellites, among other services, and is used in a growing global weather monitoring system for vital safety of life functions. The Commission has previously rejected a Motorola proposal to allow secondary use of a portion of this band for another service.

The allocation of the 1675-1710 MHz bands to MSS in Region 2, subject to the restriction that MSS operations not constrain the development of meteorological-satellite systems, creates an unworkable environment for the LEO MSS/RDSS systems which all propose global service.

Use of the 1599.5-1610 MHz band by LEO MSS/RDSS systems is similarly infeasible. Such use would be on a non-interference, unprotected basis, imposing impossible constraints on a commercial system.

Moreover, all LEO MSS/RDSS systems should be licensed to operate in the same or comparably usable spectrum. To do otherwise would be inconsistent with the Communications Act and legal precedent according comparative treatment to mutually exclusive applicants.

The use of additional spectrum for second generation LEO MSS/RDSS systems will likely be required and can be studied following the pending proceeding. However, to expedite action on the applications before it, the Commission should limit its consideration to the RDSS bands.

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JUN 24 1992

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

Federal Communications Commission
Office of the Secretary

In the Matter of:)	
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LORAL QUALCOMM SATELLITE SERVICES, INC.)	File Nos. 19-DSS-P-91 (48)
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MOTOROLA SATELLITE COMMUNICATIONS, INC.)	File Nos. 9-DSS-P-91 (87)
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ELLIPSAT CORPORATION)	File Nos. 11-DSS-P-91 (6)
)	18-DSS-P-91 (18)
)	
TRW INC.)	File Nos. 20-DSS-P-91 (12)
)	CSS-91-015
For Authority to Construct RDSS and Mobile Satellite Systems)	
)	

**COMMENTS OF LORAL QUALCOMM SATELLITE SERVICES, INC.
ON MOTOROLA PETITION FOR EXPEDITED ACTION**

Loral Qualcomm Satellite Services, Inc., ("LQSS"), by its attorneys, hereby submits its comments with regard to Motorola's Petition for Expedited Action with respect to this proceeding which addresses pending applications to provide voice, data and radio-determination satellite service (RDSS) from low-earth orbit satellites.

I. SUMMARY

Motorola Satellite Communications, Inc. on June 9, 1992 filed a Petition for Expedited Action. The Petition urges the Commission to act immediately on the pending applications by utilizing spectrum in addition to and other than that proposed by the applicants¹ for low-Earth orbit satellite systems providing RDSS, voice and data communications in the 1610-1626.5 MHz and 2483.5-2500 MHz bands ("RDSS bands"), and different from the spectrum allocation set forth in the Commission's Rules pertaining to RDSS service.

Motorola reiterates its prior proposals that the 1616-1626.5 MHz band be allocated to Motorola on an exclusive basis. Now, to readdress the needs created by its monopolistic and spectrally inefficient proposal, Motorola proposes that the Commission allocate spectrum, in addition to the RDSS band, for use by LEO MSS/RDSS applicants other than itself. Motorola proposes that the Commission authorize it to operate on an exclusive basis in the 1616-1626.5 MHz band, and authorize the other LEO MSS/RDSS applicants to operate in the 1610-1616 MHz, 2483.5-2500 MHz and in 10.5 MHz of either the 1675-1710 MHz or 1599.5-1616 MHz band.

The Commission should dismiss and disregard this new Motorola "solution" as self-serving and not viable for resolution of the pending proceeding. The Commission, at this juncture, should not introduce spectrum reallocation proposals into this proceeding as it would result in substantial delay in the implementation of important new communications services. The spectrum "solution" proposed by Motorola requires considerable analysis, coordination with United States government users of the spectrum, as well as with other users. Moreover, this purported "solution" would severely and unlawfully disadvantage the applicants for the RDSS bands, with the exception of Motorola, and impede the ability of those applicants, including LQSS, in

¹ Loral Qualcomm Satellite Services, Inc., Motorola Satellite Communications, Inc., Constellations Communications, Inc., TRW Inc. and Ellipsat Corporation constitute the "applicants". The American Mobile Satellite Corporation's (AMSC) application to utilize the RDSS bands is not encompassed by Motorola's proposal.

bringing services to the public. In short, Motorola's proposal would provide it with the monopoly it seeks, while relegating other applicants to portions of the spectrum which are not allocated for the service proposed, and which would, even if it were technically feasible, have to be shared with each other and U.S. government users.

The Commission cannot adopt the Motorola proposal without violating the rights of LQSS and the other applicants whose applications are mutually exclusive with that of Motorola.² Shorn of its gloss, this current Motorola proposal is no more than a continuation of its efforts to run roughshod over the competing applicants and to bully the Commission into granting it the monopoly it seeks in the provision of low-earth orbit voice, data and RDSS services in the prime portion of the RDSS bands.³ LQSS previously has opposed these efforts as inconsistent with the Communications Act, legal precedent and the public interest, and continues to oppose them.⁴

II. THE COMMISSION SHOULD NOT IMPLEMENT MOTOROLA'S PROPOSAL TO ADD FREQUENCY BANDS

Despite the implication of Motorola's filing, there is no "magic" solution to this

²See Section 309 of the Communications Act of 1934, as amended, 47 U.S.C. 309 and Ashbacker v. FCC, 326 U.S. 327 (1945).

³See Application of Motorola Satellite Communications, Inc., File No. 9-DSS-P-91 (87), CSS-91-010. Application of Motorola Satellite Communications, Inc. for Experimental Licenses with regard to the Iridium Satellite System, Files Nos. 2302-EX-PL-91, 2303 EX-PL-91, 2304-EX-PL-91, 2305-EX-PL-91, 2306-EX-PL-91. Supplement to Request for Pioneer's Preference, filed by Motorola Satellite Communications, Inc. in ET Docket No. 92-28, PP-32, April 10, 1992.

⁴See Consolidated Opposition to Petitions to Deny of Loral Qualcomm Satellite Services, January 31, 1992 at 4-5, 32, 41; Consolidated Reply Comments by LQSS, March 27, 1992 at 9-16, Technical Appendix Sections 3 and 4; Opposition to Request for Confidential Treatment by Loral Qualcomm Satellite Services Inc., April 23, 1992; letter of LQSS to Chairman Alfred Sikes and Commissioners Quello, Marshall, Barrett and Duggan, dated May 8, 1992; Comments filed by LQSS on Motion for Stay of TRW Inc., May 19, 1992; Comments filed by LQSS on Motorola Supplemental Filing, June 12, 1992.

proceeding. The Commission has before it five applications for operation of low-earth orbit satellite systems in the RDSS bands. Four of the applicants, including LQSS, have indicated their willingness to operate using code division multiple access (CDMA), using the entire up and downlinks of the RDSS band, working out an arrangement so that all systems can operate over the entire band. One applicant, e.g., Motorola, seeks a monopoly grant of 10.5 MHz, from 1616-1626.5 MHz for its system.⁵ Motorola claims that it cannot operate along with the other LEO systems, with geostationary systems, with GLONASS, or with radioastronomy. In effect, Motorola indicates that its system requires sole use of the most desirable and least used portion of the RDSS spectrum because it would cause interference to other systems and could not operate in the presence of other systems. In its Petition for Expedited Action, Motorola states that it "require(s) the bidirectional use of only 10.5 MHz of spectrum from 1616-1626.5," that its "system would use FDMA/TDMA modulation, and could not operate using CDMA spread spectrum modulation techniques."⁶

Because of the rigidity of the Motorola system proposal, Motorola now asks the Commission to reallocate a different portion of the spectrum in addition to the RDSS bands to provide for the other applicants and to do so unilaterally, without a rulemaking, international consultation, intra-governmental consultation or other processes. Motorola proposes that all four of the other LEO applicants squeeze into a portion of the 1675-1710 MHz band or a portion of the 1599.5-1610 MHz band. The other LEO applicants, including LQSS, would be required to share this additional

⁵ One other applicant, the American Mobile Satellite Corporation (AMSC), proposes to operate a geostationary system in the RDSS bands. LQSS has stated previously that AMSC's proposal should be dismissed as inconsistent with the outcome of WARC-92, with Commission policy of promoting multiple entry in the provision of communications services and because it is not permitted under the Commission's rules and precedent, not in the public interest and would not bring new services to the public.

⁶ Motorola Petition for Expedited Action at p. 16.

spectrum with each other as well as the existing and future users of these bands.

Further, it should be noted that under Motorola's band segmentation proposal, other RDSS applicants could only use 6 MHz in the L-band and 16.5 MHz in the S-band for their proposed LEO communications systems, instead of 16.5 MHz in each band. Such an assignment of frequency would produce an unbalanced system, forcing significant reductions in system capacity and/or design of a more complex, and consequently more expensive system, thereby increasing costs to the public.

The Commission should reject this approach outright. To commence the extensive analysis of the bands as well as coordination with the existing users would work an unacceptable and potentially extensive delay in this process, as well as create an unlawful disadvantage to the applicants for LEO RDSS/MSS systems which Motorola proposes be authorized to use such spectrum.

A. The Commission Should Process the Applications on the Basis of the Spectrum Applied for and for Which Petitions for Rulemaking are Pending

All five LEO applicants have filed rulemaking petitions for the use of the RDSS bands.⁷ In addition, all LEO RDSS/MSS applicants have requested grant of a pioneer's preference for development of innovations relating to the uses of the RDSS bands.⁸

⁷See Petition for Rulemaking filed by LQSS November 4, 1991; Petition for Rulemaking filed by Constellation Communications, Inc., RM-7771 filed June 3, 1991; by TRW Inc., RM-7773, filed July 8, 1991; by American Mobile Satellite Corp., RM-7806 and by Ellipsat Corp., RM-7805 filed July 29, 1991; Petition for Rulemaking by Motorola Satellite Communications, Inc., filed Oct. 16, 1991.

⁸See Application and Request for Pioneer's Preference by LQSS, filed June 3, 1991 at Part I, 6-8; Request for Pioneer's Preference, November 4, 1991, Supplement to Request for Pioneer's Preference, filed June 12, 1992; Request for Pioneer's Preference by TRW, Inc., filed September 6, 1991. Petition for Rulemaking by Motorola Satellite Communications, filed Oct.16, 1991, see also Motorola Satellite Communications Application, filed December 1990 at 7-8; and Request for Pioneer's Preference, July 30, 1991. Petition for Rulemaking and Request for Pioneer's Preference, Constellation Communications, July 29, 1991. Request for Pioneer's Preference, Ellipsat Corp., filed June 3, 1991. Supplemental information filed by Ellipsat Corp., June 5, 1992.

The record is voluminous with respect to the applications, the rulemaking requests and the pioneer's preference requests, all of which address the applied for spectrum. The applicants, other commenting parties, as well as the Commission have expended great effort in this process and have studied and evaluated the facts and proposals with care.⁹ To change the frequency bands under consideration at this juncture would delay still further Commission action on the pending applications and petitions for rulemaking. It would also be unfair and unlawful. Such actions would not be in the public interest.

B. The RDSS Bands Were Allocated at WARC-92 for First Generation LEO RDSS/MSS Systems

The Commission need only review the record and results of the recently concluded 1992 World Administrative Radio Conference (WARC-92) to obtain

⁹See Supplement to Request for Pioneer's Preference by Motorola Satellite Communications, April 10, 1992, ET Docket No. 92-28, PP-32 at 8, footnote 14; at 11, footnote 17, at 12 footnote 19. See supplemental information filed by Ellipsat Corp., June 5, 1992. See also the Freedom of Information Act Requests in ET Docket No. 92-28; File No. PP-32, filed April 23, 1992 by Constellation Communications, and by TRW Inc., on April 27, 1992. TRW also filed Motion to Strike or, In the Alternative, to Place Motorola Supplement on Public Notice and Opposition to Request for Confidential Treatment of Ex Parte Presentations, filed April 23, 1992. See Freedom of Information Act Request in ET Docket No. 92-28, File No. PP-32 by Ellipsat Corp. filed on April 21, 1992. Ellipsat Corp. Motion to Strike Supplement to Request for Preference, or, Alternatively, to Establish New Comment Dates, filed April 21, 1992, and Ellipsat Corp. Opposition to Request for Confidential Treatment, April 21, 1992. Application for Review of Protective Order in ET Docket No. 92-28, PP-32, FOIA Control Nos. 92-83, 92-88, 92-86, by AMSC Subsidiary Corp., filed June 12, 1992. Supplemental Comments of AMSC Subsidiary Corp., June 12, 1992. Protective Order, DA 92-674 (May 28, 1992). Comments of LQSS on Motorola Supplemental Filing, and Comments of LQSS on Confidential Supplement to Motorola's Request for Pioneer's Preference, June 12, 1992. Reply Comments of TRW Inc. on Late-Filed Comment Information of Motorola Satellite Communications, Inc. both unredacted and redacted versions, June 12, 1992. Reply Comments of Ellipsat Corp. on Motorola Supplemental Filing, June 12, 1992. Confidential Reply Comments to Confidential Appendix to Supplement to Request for Pioneer's Preference and Reply Comments of Constellation Communications Inc., June 12, 1992.

guidance as to the views of the international community regarding the allocations to be used for first generation LEO RDSS/MSS systems.¹⁰ Initially, many administrations were less than enthusiastic about allocating spectrum for LEO RDSS/MSS systems, but ultimately the Conference allocated the entire 1610-1626.5 MHz and 2483.5-2500 MHz bands for the mobile-satellite service, subject to certain provisions indicating their use by low-earth orbit satellite systems.¹¹

Many administrations at WARC-92 had serious concerns about the ability of multiple LEO RDSS/MSS systems to operate in this spectrum. Motorola, as well as the other RDSS applicants, including LQSS, provided extensive briefings to these administrations to allay these concerns.¹² Based on the commitment of the United States, WARC-92 allocated the RDSS bands for MSS on a primary basis in all three regions of the world. In addition, the 1613.8-1626.5 MHz band was allocated on a secondary basis in the space-to-Earth direction at the behest of the United States to satisfy the interest of Motorola in operating in a bidirectional manner. There was no indication at WARC-92 that the United States contemplated the band segmentation approach -- and monopoly -- that Motorola is proposing, and indeed it made representations to the contrary.

These facts and history indicate that Motorola's proposal is inappropriate and inconsistent with WARC-92. It should therefore not be considered here.

III. THE ADDITIONAL BANDS PROPOSED FOR MOTOROLA ARE ALLOCATED TO AND USED BY OTHER SERVICES

Motorola has not miraculously found spare spectrum to satisfy both its

¹⁰See The Final Acts of the World Administrative Radio Conference, (WARC-92) at Malaga-Torremolinos, including the Addendum and Corrigendum.

¹¹See LQSS' Consolidated Reply Comments in the Applications of AMSC Subsidiary Corp. and LQSS, File Nos. 15-DSS-MP-91, and 16-DSS-MP-91, File Nos. 19-DSS-P-91(48) and CSS-91-014, March 27, 1992 at Appendix B.

¹²See Reply Comments of LQSS, supra at 2; Comments of LQSS on Motorola Supplemental Filing, supra at 7-8.

monopoly requirements and the requirements of the other LEO RDSS/MSS applicants. LQSS, like Motorola, has reviewed the International Table of Allocations and the results of WARC-92 in an effort to identify possible options. LQSS is familiar with the bands that Motorola now proposes for use by systems other than itself. It is abundantly clear that these bands in no way provide the easy solution for the Commission or the applicants that Motorola claims they do.

A. The 1675-1710 MHz Band is Allocated for Meteorological-Satellite Services and Meteorological-Aids Providing Critical Safety of Life Functions

Motorola proposes that 10.5 MHz of the 1675-1710 MHz band be utilized by the LEO RDSS applicants other than itself. Motorola's own description of the band indicates just how complex the use of this band would be.

First of all, as a result of WARC-92, the 1675-1710 MHz band is divided into three segments in the International Table of Frequency Allocations -- 1675-1690 MHz, 1690-1700 MHz, and 1700-1710 MHz. The 1675-1690 MHz band is now allocated worldwide on a co-primary basis to the Meteorological-Satellite (space-to-Earth), Meteorological Aids, Fixed, and Mobile (except aeronautical mobile) Services. In Region 2 the band, beginning on October 12, 1993, will be available on a co-primary basis for MSS in the Earth-to-space direction subject to RR 735A.¹³ This footnote is a key restriction on the use by MSS of this spectrum. It provides that MSS stations in the band "shall not cause harmful interference to, nor constrain development of, the meteorological-satellite and meteorological aids services (see also Resolution COM 4/X) and the use of this band shall be subject to the provisions of Resolution COM 5/8." ¹⁴

The 1690-1700 MHz band is allocated worldwide on a co-primary basis to the Meteorological-Satellite Service ("Metsat") in the space-to-Earth direction and to the

¹³See Final Acts supra footnote 10, at 14-15, Addendum and Corrigendum.

¹⁴Id.

Meteorological Aids Service ("Metsats"). Also as a result of WARC-92, in Region 2, the band will be available, beginning October 12, 1993, on a co-primary basis to the Mobile Satellite Service in the Earth-to-space direction subject to RR 735A requiring protection of Metsats and Metsats.¹⁵

Further, the 1700-1710 MHz band is allocated worldwide on a co-primary basis to Metsats in the space-to-Earth direction, and Fixed and Mobile (except Aeronautical Mobile) Services. This band also will be available, beginning October 12, 1993, for mobile satellite service in the Earth-to-space direction in Region 2 subject to RR 735A.¹⁶

Not only are these bands already allocated to other services, they are extensively used by other systems, including the National Oceanic and Atmospheric Administration's (NOAA) weather satellites, as well as the weather satellites of other countries. The NOAA systems provide vital safety-of-life information throughout the world on a real-time basis. While the NOAA systems currently use a portion of the band, the system is constantly under expansion and future growth is expected to be significant.¹⁷

Chart III-A shows a preliminary review of the current and future meteorological satellites in the 1675-1710 MHz band. Satellites in these bands are operated by countries around the world, including the European Space Agency (ESA), Japan and the U.S.

¹⁵Id.

¹⁶Id.

¹⁷ See, "New NOAA-11 Will Monitor Ozone, Aid Search-and-Rescue Operations," Aviation Week and Space Technology, October 10, 1988, announcing the launch of NOAA-11 which will, according to the article, send "a steady stream of vital data to the National Weather Service that will soon include global ozone measurements."

CHART III-A
METEOROLOGICAL SATELLITES IN THE 1670-1710 MHz BAND

Meteorological Satellites	Orbit	Sponsor Agency	Launch Date	Frequency (MHz)
Meteosat Operation Program	GEO	European Space Agency	1989-93	1691/1694.5
MOP 1			1989	
MOP 2			1991	
MOP 3			1993	
Geostationary Meteorological Satellite (GMS)	GEO	Japan Meteorological Agency	1977-94	1687/1691
GMS 1-5			last launch planned for 1994	
GOES	GEO	U.S. NOAA	1975-2006	1694.5
GOES J-M			1992-1996	
TIROS N	LEO	U.S. NOAA	1978	1698 1702.5 1707
NOAA K,L,M,N	LEO	U.S. NOAA	1993-1996	Same as TIROS N

The allocation at WARC-92 for mobile-satellite service in these bands (limited to Region 2) was made with the explicit proviso that such use not constrain the development and future use of the band by MetSats and MetAids. It is very difficult to conceive how LEO RDSS/MSS systems could be designed not only to work around current MetSat and MetAids operations but to "avoid" other spectrum that systems in these services may operate on in the future. Despite Motorola's proposal, that "since the LEO RDSS/MSS systems would have communication with central control stations, any changes to the Metsat or MetAid systems can be coordinated so as not to constrain Metsat or Metaid system development,"¹⁸ such a constraint on the LEO RDSS/MSS systems would create considerable uncertainty and complexity as to the bandwidth available for operations, operating parameters and design of user equipment.

Motorola neglects, in its filing, to point out that the United States did not propose the allocation of the 1675-1710 MHz band for use by MSS, nor did it support this allocation. As discussed above, the allocation was reluctantly agreed to during the final hours of the conference. During preparations for the conference, the United States Industry Advisory Committee as well as the United States delegation, considered numerous potential bands to meet the needs of the mobile-satellite service. Because of the critical nature of the use of the 1675-1710 MHz band by MetSats and MetAids, the United States did not include it in its proposals for the conference.

Motorola's implication, that the United States approved of this allocation is misleading. Motorola states that, "(I)n adopting this allocation at WARC-92, the apparent intention was to pair this 35 MHz uplink band with the allocation at 1492-1525 MHz for MSS downlinks. The United States, however, took an exception to the proposed use of the 1492-1525 MHz band for an MSS downlink allocation."¹⁹ As Motorola itself states, the United States opposed the use of the 1492-1525 MHz band

¹⁸ Motorola Petition, p. 21.

¹⁹ Motorola Petition at p. 19.

for several allocations -- Broadcasting Satellite Service (Sound), Broadcasting Service, as well as Mobile-Satellite Service -- because this band is used in the United States for Aeronautical Telemetry, or flight testing. Motorola implies that the United States did not similarly oppose the allocation of the 1675-1710 MHz band to MSS in Region 2 because it did not take a formal reservation to the action of the conference.

The United States, as do most other administrations, seeks to reach consensus on the maximum number of allocations at World Administrative Radio Conferences. Thus, the United States makes sparing and judicious use of its right to take a formal reservation to conference actions. With the allocation of the 1675-1710 MHz band to MSS in Region 2 coming at virtually the eleventh hour of the conference, the United States delegation did not have advance positions opposing such an allocation, or approval to enter a reservation.

Thus, Motorola is not correct in suggesting that the United States supported the addition of Mobile-Satellite Service in the 1675-1710 MHz band in Region 2. The inclusion of the very restrictive Footnote 735A suggests serious concerns about the impact of MSS operations on MetSats and MetAids.

B. The Commission Has Previously Rejected A Proposal Made by Motorola to Share Portions of the 1675-1710 MHz Bands with Other Services

The Commission has previously considered the operation of an additional service in at least part of this band and the impact such service might have on MetSat operations. In 1988, the Commission determined that the 1700-1710 MHz portion of this band, could not be used by a Motorola-proposed radio local area network (RLANS) service, even on a secondary basis.²⁰ The Commission stated that:

Although NTIA did not initially object to use of the 1700-1710 MHz band for RLANS, in subsequent comments it provided new information regarding projected use of the band by the primary users. Specifically,

²⁰ See, In the Matter of Amendment of Parts 1 and 94 of the Commission's Rules to Accommodate Radio Local Area Network Stations in the 1700-1710 MHz Band, 1988 FCC LEXIS 1485, 65 Rad. Reg. 2d (P & F) 89 (1988).

the number of ground terminals is expected to be several times larger than originally believed. Extensive use of the band for MetSat purposes makes the possibility of sharing more difficult.²¹

Thus, the Commission concluded "that there are too many complex technical and regulatory issues associated with permitting RLANS in the 1700-1710 MHz band to go forward at this time."²² If the Commission, in 1988, would not permit mobile use in this band on a secondary basis for wireless connection of personal computers and desktop terminals to central processors, a service that would appear to impose little threat to MetSat operations, it is hard to imagine that operation of thousands of mobile satellite terminals in conjunction with satellites operating in low-earth orbit would be viewed as a compatible operation in the band.

Motorola, in its Petition for Expedited Action, stresses the importance of moving forward with the processing of the pending applications for LEO RDSS/MSS service. LQSS agrees with this objective. However, as indicated by Motorola's RLANS request for rulemaking to utilize the 1700-1710 MHz band, consideration of spectrum allocation can, and usually does, require a lengthy proceeding. Motorola's request with regard to its proposed RLANS service -- for a secondary allocation -- took more than three years to come to conclusion. Motorola filed its petition on June 14, 1985 and the Commission determined not to allocate the spectrum as Motorola proposed in a Commission order adopted July 26, 1988.

LQSS does not believe that further delay in the current LEO RDSS/MSS proceeding would serve the applicants, the public interest or the United States national interest in having U.S. systems go forward.

C. The 1675-1710 MHz Bands are Allocated to Terrestrial Fixed and Mobile Services Throughout the World

In addition to the MetSat and MetAids allocations in the 1675-1710 MHz

²¹ Id. at p. 89.

²² Id.

bands, terrestrial fixed and mobile service also may use the bands on a co-primary basis. Motorola has made some effort to analyze current assignments and use by such systems in these bands. The fact remains that terrestrial, mobile and fixed services would continue to be co-primary with any satellites operating in these bands. Coordination would be required with any such systems. However, the issue of the operations and status of LEO MSS/RDSS systems in relation to meteorological satellites causes by far the most serious concern with respect to sharing in this band.

D. The Use of the 1599.5-1620 MHz Band as Proposed by Motorola Would Be Unworkable for LEO MSS/RDSS

Motorola, in addition to its proposal that the LEO RDSS/MSS applicants other than itself, squeeze into 10.5 MHz of the 1675-1710 MHz band suggests alternatively that these applicants use 10.5 MHz of the 1599.5-1620 MHz band. The 1599.5-1620 MHz band contains no allocation for the Mobile-Satellite service. It is allocated to the Aeronautical Radionavigation Service and the Radionavigation-Satellite Service for downlinks on a co-primary basis in Region 2. Motorola notes that the 1599.5-1620 MHz band is also available in certain countries for the Fixed Service, for the Aeronautical Radionavigation Service in Sweden, and for the Aeronautical Mobile Service in certain countries.

Motorola suggests that the 1599.5-1620 MHz band would be suitable for the LEO RDSS/MSS applicants other than itself because "(T)he other LEO RDSS/MSS applicants have previously stated that they can share with GLONASS."²³ Motorola points out that the Russian GLONASS system operates from 1610 to 1616 MHz pursuant to RR 732 and that, pursuant to RR 731X adopted at WARC-92, MSS or RDSS uplinks in the 1610-1626.5 MHz band are subject to certain requirements to ensure that they do not cause harm to the GLONASS operations, to Aeronautical

²³ Motorola Petition, at p. 26.

Radionavigation Service in Sweden, and to certain existing fixed operations.²⁴

In order to gain the support of Russia to the LEO RDSS/MSS allocations at WARC-92 (or at a minimum, to avoid opposition), the United States provided analyses that demonstrated that the LEO RDSS/MSS applicants, other than Motorola, would operate within certain uplink e.i.r.p. density limits in order not to cause harmful interference to the GLONASS system. This limit is embodied in RR 731X. In the 1616-1626.5 MHz band, where the current GLONASS system does not operate²⁵, a higher e.i.r.p. density limit was set to accommodate Motorola's system.

Because of the proposed operating parameters of the LEO RDSS/MSS systems other than its own, Motorola suggests that "it follows that these same LEO systems should be able to share the spectrum from 1599.5- 1610 MHz equally well with GLONASS, as well as with any future Aeronautical Radionavigation-Satellite system in the band, by conforming to RR 731X."²⁶

Operation in the band 1599.5 - 1610 MHz would be subject not only to coordination with systems such as GLONASS, but subject to RR 342, that is, on a non-interference basis to any systems, as there is no allocation for mobile-satellite service in the band. The possibility, if any, to share with GLONASS would have to be carefully analyzed and would of necessity require extensive and time-consuming coordination. The Commission is well aware of the complexities of such frequency coordinations among satellite systems.

Further, operation pursuant to RR 342, and in the absence of a specific

²⁴ See, Footnote RR 731X, Resolution COM 5/8 from the Addendum and Corrigendum to the Final Acts of WARC-92, as well as existing RR 730 of the Radio Regulations.

²⁵ On January 22, 1992, the International Frequency Registration Board circulated the Advance Publication material provided by Russia concerning its planned GLONASS-M system which would utilize the band 1596.9 - 1610 MHz for space and earth (land, maritime, aeronautical) stations and the band 1610-1620.6 MHz for space and aeronautical stations.

²⁶ Motorola Petition, at p. 27.

allocation in any region of the world, would impose a serious inequity on the LEO RDSS/MSS systems other than Motorola. LQSS does not agree with Motorola's claim that this situation is similar to the creation of a duopoly in the provision of cellular radio services.²⁷ When the Commission allocated spectrum for cellular radio systems, both the wireline and non-wireline applicants were given exactly comparably usable spectrum with the same allocation for the United States.²⁸

E. The LEO RDSS/MSS Applicants All Propose Global Systems and Require Spectrum on a Worldwide Basis

Motorola concentrates almost entirely upon the issue of allocation for LEO RDSS/MSS systems for operation in the United States. But surely Motorola is not planning to invest more than \$3 billion for a system that would provide service only in the United States. All of the LEO RDSS/MSS applicants, including LQSS, propose global service.

More important, however, is the question of certainty for all applicants that service can be provided throughout the world. The nature of low-earth orbit satellite systems is that they are capable of providing global coverage. The service requirements and the economics of LEO systems indicate the importance of global operations. Motorola, however, suggests that "(I)f more international spectrum is needed in the near term, these systems could operate RDSS/MSS uplinks in the 1675-1710 MHz band in Regions 1 and 3 on a non-interference basis pursuant to RR 342."²⁹ RR 342 provides:

Administrations of the Members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations

²⁷ Supra, at p. 33.

²⁸ See, Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems (Report and Order), Gen. Docket No. 84-1231, 2 FCC Rcd. 1825, 1828 ¶ 26 (1986). and Additional Frequency Allocation for Cellular Systems (Notice of Proposed Rulemaking), 50 Fed. Reg. 3809, 3809 ¶ 1 (1985).

²⁹ Motorola Petition, at p. 24.

given in this Chapter or the other provisions of these Regulations, except on the express condition that harmful interference shall not be caused to services carried on by stations operating in accordance with the provisions of the Convention and of these Regulations.³⁰

Despite Motorola's cavalier suggestion, operation of commercial systems pursuant to this provision would be both risky and problematic. Under RR 342, systems have no status. They may neither cause interference to nor receive protection from other systems, including systems that may be implemented in the future. For system operators to proceed pursuant to RR 342 in the design, financing, construction and deployment of costly systems would be risky. And, the Commission would not have certainty that such systems would be able to provide the communications services proposed.

Motorola seems to believe that such operation is feasible, however. In that case, sauce for the goose is sauce for the gander might be the guiding principle. Perhaps, then, the Commission should give serious consideration to retaining the open entry, multiple provider and code-division multiple access provisions applicable to the 1610-1626.5 MHz and 2483.5-2500 MHz bands in the Commission's existing rules³¹ and provide for operation of Motorola's system elsewhere in the electromagnetic spectrum pursuant to RR 342. (Motorola, of course, has carefully planned to avoid this possibility and designed a system which simply cannot operate under such constraints, although it advocates imposition of them on others).

As stated previously by LQSS, the Commission should address the issue of whether Motorola's system is consistent with long-standing Commission policy of multiple providers and spectrum efficiency. If the Commission determines that it is not, Motorola can be given the opportunity to revise its system proposal.³²

³⁰ Radio Regulations, International Telecommunication Union, Geneva, 1990.

³¹ See, Section 25.141 of the Commission's rules, 47 C.F.R. § 25.141.

³² Motorola has suggested that applicants other than itself will have to revise their system proposals, to utilize the spectrum it is proposing.

The question of international allocations is a serious one. The most recent major spectrum allocation conference occurred this year. The previous conference addressing mobile satellite issues occurred in 1987; the conference prior to that was in 1979. Although the ITU will hold a Plenipotentiary this December to consider the scheduling of future spectrum allocation conferences and may decide to schedule such conferences on a regular, biennial basis, even under such a scenario it is unlikely that a conference would occur prior to 1994 or 1995 at the earliest. And, as was demonstrated by WARC-92, spectrum allocations are rarely made effective immediately. The bulk of the allocations at WARC-92 are scheduled to go into effect on October 12, 1993, with most new global mobile-satellite service allocations available in 2005.

IV. ALL QUALIFIED LEO RDSS/MSS APPLICANTS SHOULD HAVE ACCESS TO THE SAME SPECTRUM

Spectrum allocation must be procedurally sound, legally permissible and fair to all applicants. It cannot be unilaterally imposed to the benefit of one applicant and the detriment of others.

A. The Communications Act and Legal Precedent Preclude Uneven Treatment of Mutually Exclusive Applicants

As LQSS has stated in numerous other filings in this proceeding,³³ the Commission cannot favor Motorola to the exclusion of other mutually exclusive applicants. To go down the path of Motorola's band-segmentation proposal, through the pioneer's preference proceeding, or through the processing of the pending applications, would unlawfully deny LQSS and others the right to comparative

³³ See, e.g., Reply Comments of LQSS with Regard to Requests for Pioneer's Preference, April 23, 1992, Comments of LQSS on Motorola's Supplemental Filing on its Request for Pioneer's Preference, June 12, 1992.

consideration accorded by the Communications Act of 1934, as amended, and by legal precedent, including Ashbacker v. FCC, 326 U.S. 327 (1945).

What Motorola is in essence putting forward is a spectrum reallocation proposal. Motorola is making this reallocation proposal in the context of its Request for Pioneer's Preference, application for experimental license, and now here, in the context of the pending applications. Motorola, in the guise of its Petition for Expedited Action on its pending application, essentially has filed a new rulemaking petition seeking the reallocation by the Commission of additional spectrum in the United States for use by LEO RDSS/MSS systems other than its own. But, as proposed by Motorola, the use of additional spectrum for systems other than its own, works an inequity and a legally impermissible discrimination between its proposed TDMA LEO RDSS/MSS system and the proposed CDMA LEO RDSS/MSS systems.³⁴

B. The Commission Should License the Qualified LEO RDSS/MSS Applicants to Use the Entire RDSS/MSS Band

The Commission can and should proceed with the pending rulemaking petitions as well as the pending applications to provide voice, data and RDSS service from low-earth orbit satellites. It can proceed expeditiously with a rulemaking, as LQSS has previously suggested, which focuses narrowly on the financial qualification and technical issues raised in the rulemaking petitions. Consistent with the current RDSS rules (see, e.g., Section 25151 (e)), as well as Commission policy promoting open entry and spectrum sharing, the Commission should provide that users of the 1610-1626.5 MHz and 2483.5-2500 MHz bands operate in such a manner as to enable use of the entire band by multiple systems.

Following the rulemaking, the Commission may have to provide opportunity

³⁴See Rainbow Broadcasting Co. v. FCC, 949 F 2d. 405, 409 D.C. Cir.1941) (Ashbacker requires applicants for the same frequency to be treated equally).

for amendment of applications, as it has previously indicated it would.³⁵ The applications could then be acted upon by the Commission. LQSS believes that this orderly approach will enable the Commission to act in the public interest within the shortest possible timeframe.

V. CONCLUSION

The Commission should not at this time implement a review of the alternative spectrum proposals made by Motorola. The bands proposed for use are not allocated for mobile-satellite service on a worldwide basis and are allocated to and used by other critical services, including meteorological-satellites. The feasibility for use by low-earth orbit satellite systems providing voice, data and RDSS service requires extensive analysis and coordination with United States government users and with other nations, and the Commission has previously rejected a similar proposal. Motorola's approach would delay rather than expedite this proceeding.

³⁵ See, Public Notice, Report No. DS-1068, released April 1, 1991, as corrected by Report No. DS-1071, released April 18, 1991, providing that amendments to applications will be permitted if necessary as a result of any rules the Commission adopts.

The Commission should set aside Motorola's proposal and move forward with the pending rulemaking on the RDSS bands and the processing of the applications before it.

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June 24, 1992

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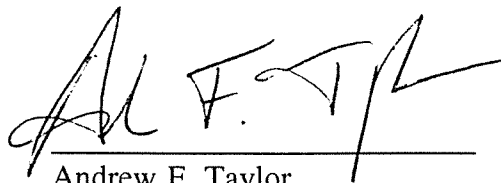
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