LAW OFFICES

FISHER, WAYLAND, COOPER AND LEADER

1255 TWENTY-THIRD STREET, N.W.
SUITE 800
WASHINGTON, D. C. 20037-1170
TELEPHONE (202) 659-3494
TELECOPIER (202) 296-6518

WRITER'S DIRECT NUMBER
(202) 775-5677

BEN C. FISHER
GROVER C. COOPER
MARTIN R. LEADER
RICHARD R. ZARAGOZA
CLIFFORD M. HARRINGTON
JOEL R. KASWELL
KATHRYN R. SCHMELTZER
DOUGLAS WOLOSHIN
BRIAN R. MOIR
DAVID D. OXENFORD
BARRY H. GOTTFRIED
ANN K. FORD
BRUCE D. JACOBS
ELIOT J. GREENWALD
CARROLL JOHN YUNG
JOHN JOSEPH MCVEIGH
BARRIE D. BERMAN
JOHN K. HANE III
BRUCE F. HOFFMEISTER
SCOTT R. FLICK
FRANCISCO R. MONTERO
GREGORY L. MASTERS*
MATTHEW P. ZINN
ROBERT C. FISHER
LAUREN ANN LYNCH
BRIAN J. CARTER
GLENN S. RICHARDS*
KELLY D. YAKSICH*
ANDREW W. SHROYER*

*NOT ADMITTED IN D.C.

BEN S. FISHER
(1890-1954)

CHARLES V. WAYLAND
(1910-1980)

OF COUNSEL
JOHN Q. HEARNE

MCI MAIL: FWCLDC

ORIGINAL FILE

April 8, 1992

RECEIVED
APR - 8 1992
Federal Communications Commission
Office of the Secretary

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

Re: Pioneer's Preference Request of
Motorola Satellite Communications, Inc.
ET Docket No. 92-28; PP-32

Dear Ms. Searcy:

Enclosed on behalf of AMSC Subsidiary Corporation ("AMSC") is an original and five copies of its "Consolidated Opposition to Requests for Pioneer's Preference" regarding the above-referenced pioneer's preference request filed by Motorola Satellite Corporation, Inc. ("Motorola"). AMSC is consolidating its opposition to the Motorola request with its opposition to four other requests (Constellation Communications, Inc., PP-29; Ellipsat Corporation, PP-30; Loral Qualcomm Satellite Services, Inc., PP-31; and TRW Inc., PP-33) that raise similar issues and have the same filing deadlines. To insure that AMSC's pleading is associated with each of the pioneer's preference files, under separate cover we also are submitting this same pleading in the other four files.

Please contact the undersigned if there are any questions.

Sincerely,

Gregory L. Masters

GLM:jlm

No. of Copies rec'd 0+5
List A B C D E

ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

RECEIVED

APR - 8 1992

Federal Communications Commission
Office of the Secretary

In the Matter of	)	ET Docket No. 92-28
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum to the Mobile Satellite Service Above 1 GHz for Low-Earth Orbit Satellites -- Requests for Pioneer's Preference by Constellation, Ellipsat, Loral, Motorola, and TRW	)	PP-29 PP-30 PP-31 PP-32 PP-33

CONSOLIDATED OPPOSITION TO REQUESTS FOR PIONEER'S PREFERENCE

AMSC SUBSIDIARY CORPORATION

Bruce D. Jacobs
Glenn S. Richards
Gregory L. Masters
Fisher, Wayland, Cooper & Leader
1255 23rd Street, N.W.
Suite 800
Washington, D.C. 20037
(202) 659-3494

Lon C. Levin
Vice President and
Regulatory Counsel
American Mobile Satellite
Corporation
1150 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 331-5858

Dated: April 8, 1992

SUMMARY

AMSC opposes the requests for pioneer's preferences filed by Constellation, Ellipsat, Loral, MSCI and TRW, the proponents of non-geostationary MSS systems that would operate in the RDSS bands.

A would-be recipient of a pioneer's preference faces a significant burden. It must show not only that it has developed a proposal that represents a significant technological innovation, but that its proposal is sufficiently meritorious to justify the Commission in allocating spectrum for its service and, ultimately, licensing the entity. The proponent of a nationwide preference has an even higher threshold to cross. To date, the Commission has made a tentative determination to award a pioneer's preference only once. In that case, the proponent developed a technology that presented no sharing problems with other users of the spectrum and demonstrated its proposal's workability through years of testing and experimental operation.

The non-geostationary MSS applicants do not meet the daunting standard required for grant of a pioneer's preference. As AMSC has shown previously, none of the proposed systems can be licensed viably to operate in the RDSS bands. The available RDSS spectrum instead should be allocated to MSS and assigned to AMSC, which needs additional spectrum and can add the RDSS uplink frequencies to its system promptly and cost-efficiently.

Furthermore, none of the applicants has shown that its proposal is truly innovative. The applicants will provide no new

service; rather, they propose only to provide MSS service in new frequency bands, and in a less spectrum-efficient manner. Few of the applicants specify in more than the most general terms what is innovative about their proposals. Even those applicants that are specific fail to demonstrate that their systems entail innovations beyond what existing technology has already accomplished.

Finally, these applicants seek nationwide pioneer's preferences, which the Commission will grant only rarely. As none has proposed any technological innovation deserving of a pioneer's preference, let alone a nationwide preference, this is a case where none of the multiple pioneer's preference requests should be granted.

TABLE OF CONTENTS

Page

SUMMARY i

CONSOLIDATED OPPOSITION TO REQUESTS FOR PIONEER'S PREFERENCE 1

Background 2

Discussion 8

I. Pioneer's Preferences Are Not Easy To Obtain . . 9

II. The Proposed Non-Geostationary MSS Systems Do Not Have Sufficient Merit To Justify a Preference 13

III. None of the Proposals Is Sufficiently Innovative to Be Awarded a Pioneer's Preference 15

A. The Proposed Non-Geostationary Systems Will Provide No New Service and Will Not Substantially Enhance an Existing Service 15

B. The Proposed Non-Geostationary Systems Feature No Technological Innovations 16

IV. The Public Interest Would Be Served Better by Not Granting Any of the Multiple Requests for a Nationwide Pioneer's Preference 18

Conclusion 19

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

RECEIVED

APR - 8 1992

Federal Communications Commission
Office of the Secretary

In the Matter of	)	ET Docket No. 92-28
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum to the Mobile Satellite Service Above 1 GHz for Low-Earth Orbit Satellites -- Requests for Pioneer's Preference by Constellation, Ellipsat, Loral, Motorola, and TRW	)	PP-29 PP-30 PP-31 PP-32 PP-33

CONSOLIDATED OPPOSITION TO REQUESTS FOR PIONEER'S PREFERENCE

AMSC Subsidiary Corporation ("AMSC"), by its attorneys, hereby submits its opposition to the requests for pioneer's preference submitted by Constellation Communications, Inc. ("Constellation"), Ellipsat Corporation ("Ellipsat"), Loral Qualcomm Satellite Services, Inc. ("Loral"), Motorola Satellite Communications, Inc. ("MSCI"), and TRW Inc. ("TRW").[1/] As set forth below, all of the proponents have failed to establish that

---

1/ See Request for Pioneer's Preference of Constellation, PP-29 (February 20, 1992) ("Constellation Request"); Request for Pioneer's Preference of Ellipsat, PP-30 (July 29, 1991) ("Ellipsat Request"); Request for Pioneer's Preference of Loral, PP-31 (November 4, 1991) ("Loral Request"); Request for Pioneer's Preference of MSCI, PP-32 (July 30, 1991) ("MSCI Request"); Request for Pioneer's Preference of TRW, PP-33 (September 6, 1991) ("TRW Request").

These Consolidated Comments are filed pursuant to the Commission's Public Notice, Mimeo No. 22153 (March 9, 1992).

their proposals meet the test for a nationwide pioneer's preference.

Background

Constellation, Ellipsat, Loral, MSCI and TRW each filed applications for non-geostationary satellite systems to operate in the bands presently allocated to the Radiodetermination-Satellite Service ("RDSS").[2/] All of these systems are designed to provide mobile voice and data communications with ancillary position location service. All of the applicants have filed petitions seeking changes in the Commission's rules to accommodate their proposed systems.[3/]

2/ See File Nos. 17-DSS-P-91(48), CSS-91-013 (Constellation) (June 3, 1991); File No. 11-DSS-P-91(6) (Ellipsat's "Ellipso I" application) (November 5, 1990); File No. 18-DSS-P-91(18) (Ellipsat's "Ellipso II" application) (June 3, 1991); File Nos. 19-DSS-P-91(48), CSS-91-014 (Loral) (June 3, 1991); File Nos. 9-DSS-P-91(87), CSS 91-010) (MSCI) (December 3, 1990); File Nos. 20-DSS-P-91(12), CSS-91-015 (TRW) (June 3, 1991).

The RDSS frequencies are 1610-1626.5 MHz (Earth to space) and 2483.5-2500 MHz (space to Earth). MSCI and Loral System A propose to operate both their uplinks and downlinks in the RDSS uplink band.

3/ See Petition for Rulemaking and Request for Pioneer's Preference of Constellation (June 3, 1991); Petition for Rulemaking of Ellipsat (July 29, 1991); Petition for Rulemaking of Loral (November 4, 1991); Petition for Rulemaking of MSCI (October 16, 1991); Petition for Rule Making and Request for Pioneer's Preference of TRW (July 8, 1991).

AMSC is the licensee of the U.S. MSS system.[4/] Due to the growing international shortage of MSS spectrum and the unique value of the RDSS uplink frequencies to the U.S. MSS system, AMSC has urged the Commission to allocate a 10 MHz portion of the RDSS uplink band to MSS and assign it to AMSC.[5/] AMSC has demonstrated that it could put the frequencies to use promptly and efficiently. At a cost of less than $10 million, AMSC would be able to add the RDSS frequencies to those already assigned to the U.S. MSS system.

AMSC petitioned to deny the system applications of Constellation, Ellipsat, Loral, MSCI and TRW and opposed their associated petitions for rulemaking.[6/] AMSC demonstrated that due to interference problems with existing users of the bands

---

4/ See Final Decision on Remand, Gen. Docket No. 84-1234, 7 FCC Rcd 266 (1992).

5/ See Petition of AMSC, RM-7805 (June 3, 1991); see also File Nos. 15/16-DSS-MP-91 (June 3, 1991).

6/ With respect to the Motorola and Ellipsat applications, see Petition of AMSC, File Nos. 11-DSS-P-91(6), 9-DSS-P-91(87), CSS 91-010 (June 3, 1991); Response of AMSC, File Nos. 11-DSS-P-91(6), 9-DSS-P-91(87), CSS 91-010 (August 5, 1991).

With respect to the Constellation, TRW, and Ellipsat petitions for rulemaking), see Opposition of AMSC, RM-7771, RM-7773, RM-7805 (October 16, 1991); Reply Comments of AMSC, RM-7806, RM-7771, RM-7773, RM-7805 (November 14, 1991).

With respect to the Constellation, Ellipsat, Loral, and TRW applications, see Petition to Deny of AMSC, File Nos. 17-DSS-P-91(48), CSS-91-013, 18-DSS-P-91(18), 19-DSS-P-91(48), CSS-91-014, 20-DSS-P-91(12), CSS-91-015 (December 18, 1991); Consolidated Reply of AMSC, File Nos. 17-DSS-P-91(48), CSS-91-013, 18-DSS-P-91(18), 19-DSS-P-91(48), CSS-91-014, 20-DSS-P-91(12), CSS-91-015 (March 27, 1992).

there is not enough spectrum available in the RDSS bands to accommodate even one of the proposed non-geostationary systems.[7/] To avoid interference, the satellite systems would have to cut drastically their downlink power and uplink bandwidth, and therefore their capacity. The highest capacity system would have no more than a few hundred channels even if none of the other systems were licensed; more typical systems would have less than ten voice channels. These interference concerns have become more acute as a result of the recently concluded 1992 World Administrative Radio Conference.[8/]

AMSC also demonstrated that a number of the proposed systems would have serious reliability flaws. Specifically, several of the systems would have poor coverage and visibility, and there is a substantial potential problem of the proposed satellites causing collisions in space. In addition, several of the non-geostationary system applicants have urged the dismissal or

---

7/ Any new system operating in the RDSS bands must protect from interference other users of those bands, which include radio astronomy observatories, the rapidly developing Glonass radionavigation system, and terrestrial fixed systems. See RR 731X and RR733E, Addendum and Corrigendum to the Final Act of the World Administrative Radio Conference (WARC-92), Malaga-Torremolinos, 1992.

8/ To make sharing matters in the RDSS bands even worse, after the conclusion of the WARC, Inmarsat submitted advance publications to the International Frequency Registration Board stating that it intends to operate its own geostationary and non-geostationary satellite systems in the RDSS bands. This development will reduce further the spectrum available to a U.S. licensed system.

denial of other non-geostationary system applications.[9/] Thus, at best, there are numerous unanswered questions concerning the quality of service the proposed non-geostationary systems could provide.

Despite the unworkability of each of their proposed systems, Constellation, Ellipsat, Loral, MSCI and TRW each have sought a nationwide pioneer's preference for their respective proposals.

With the exception of Loral, all of the proponents submit only the most general of claims regarding the innovations that they consider worthy of a preference. None of the applicants attempts to differentiate between innovation and duplication of the existing technologies. Constellation, for example, claims that its system "is designed to provide new and innovative telecommunications services to many areas and people that do not have access to any telecommunications services today," and that its system "will include several unique and dynamic technologies"

9/ For example, Ellipsat has noted shortfalls in the Constellation, Loral and TRW applications. Petition to Deny or Dismiss and Comments of Ellipsat, File Nos. 15/16-DSS-MP-91, 17-DSS-P-91(48), CSS-91-013, 20-DSS-P-91(12), CSS-91-015, 19-DSS-P-91(48), CSS-91-014 (December 18, 1991), at 14 N.21. MSCI has cited in detail the capacity limitations and reliability problems inherent in the Constellation, Loral and TRW systems. See Consolidated Petitions to Dismiss or Deny of MSCI, File Nos. 15/16-DSS-MP-91, 17-DSS-P-91 (48), CSS-91-013, 18-DSS-R-91(18), 19-DSS-P-91 (48), CSS-91-014, 20-DSS-P-91(12), CSS-91-015 (December 18, 1991), at 20-26, 36-40. See also Petition to Deny of Ellipsat, File Nos. 9-DSS-P-91(87), CSS-91-010 (June 3, 1991); Petition to Deny of MSCI, File No. 9-DSS-P-91(6) (June 3, 1991).

such as an "innovative" satellite, a "dynamic" receiver, and the vehicle to be used to launch its satellites.[10/]

Ellipsat asserts that its system "combines state-of-the-art technology in a highly innovative and spectrum efficient fashion," and cites "high-quality, low-cost RDSS and mobile voice services; transparent interconnection between terrestrial cellular and satellite communications capability; and use of code division multiple access ("CDMA") techniques to ensure multiple entry and maximize spectrum utilization." Ellipsat claims that its system "will improve an existing service (RDSS)" through efficiencies in spectrum use, and will do so "rapidly and on a cost-effective basis."[11/] Ellipsat admits, however, that its system design "uses existing state-of-the-art technology."[12/]

MSCI claims that its system will "improv[e] an existing service ('RDSS') through significant enhancements to spectrum efficiency," and will "enabl[e] the sharing, or co-use, of allocated RDSS spectrum with other compliant RDSS systems."[13/] MSCI also states that its system "will employ an innovative

---

10/ Constellation Request at 3-4.

11/ Ellipsat Request at 6-7.

12/ Id. at 2.

13/ MSCI Request at 5. In contrast, MSCI's current position is that the only way for additional systems to operate would be for these systems to use separate frequencies. MSCI's proposed system would use more than 60% of the band. See Reply Comments of MSCI, File Nos. 15/16-DSS-MP-91, 17-DSS-P-91(48), CSS-91-013, 18-DSS-P-91 (18), 19-DSS-P-91(48), CSS-91-014, 20-DSS-P-91(12), CSS-91-015 (January 31, 1992), at 10.

cellular design and spot beam technology and alludes to its system's use of intersatellite links and bidirectional capabilities."[14/]

TRW cites no specifically innovative aspect of its proposed system. It claims only that its system will "permit the long-authorized (but never operational) RDSS service to become a reality," and will "utilize new technology to offer other publicly-beneficial services not envisioned when the [RDSS] service was established." TRW states that its system's "ability to provide fully compatible mobile voice and data services will not only serve the public interest by meeting unsatisfied demand in these areas, it will do so in a highly spectrum efficient manner."[15/]

Loral describes as "innovative and unique" a number of aspects of its system and satellite design. Loral cites to its system's interoperability with the public switched network, system architecture features such as call set-up mechanisms, user validation, and "soft" call hand-offs, and satellite and system design components such as its configuration of eight satellites per orbital plane at 1389 kilometers altitude, spot beams that form coverage cells aligned with the velocity vector of the satellite, call hand-off protocols, use of a pilot channel to obtain synchronization with the gateway station, and "innovative

---

14/ Id. at 2.

15/ TRW Request at 7.

multi-frequency, multi-beam antennas."[16/] Loral also states that its system incorporates "[i]nnovative CDMA techniques for reuse of frequencies and compression of signals."[17/]

None of the applicants presents any showing that its system is technically feasible beyond what may have been included in its application. None submits the results of any experiments that it might have completed.[18/]

Discussion

All of the proponents fail to meet the test for the pioneer's preferences they seek. Unlike the only entity that has tentatively received a pioneer's preference to date, these applicants present fundamental system proposals that lack merit and should not be licensed by the Commission. The proponents also have failed to submit the requisite showing that their systems are truly innovative. In fact, their systems do not appear to propose any new services or any technology that

---

16/ Loral Request at 9-10.

17/ Id. at 11.

18/ MSCI received special temporary authorization to conduct limited testing. See File No. S-0197-Ex-91 (May 15, 1991). Constellation and Ellipsat have requested authority to launch experimental satellites and MSCI has submitted a further similar request. See Experimental Application of Constellation, File No. 2057-EX-PL-91, 2058-EX-PL-91; Experimental Application of Ellipsat, File No. 2139-EX-PL-91 (July 29, 1991); Experimental Application of MSCI, File Nos. 2303-EX-PL-91 et al. (October 16, 1991). TRW has filed a petition to deny the MSCI experimental application (File Nos. 2303-EX-PL-91 et al.) (March 5, 1992).

enhances existing services. Thus, the Commission should not grant any kind of pioneer's preference to these applicants, and particularly not a nationwide pioneer's preference.

I. Pioneer's Preferences Are Not Easy To Obtain

The Commission established a pioneer's preference in order to reward innovators who develop new technologies that lead to the introduction of a new communications service or to the substantial enhancement of an existing service.[19/] The recipient of a pioneer's preference is permitted to have its license application granted without being subject to competing applications.[20/] Thus, assuming the recipient is basically qualified to hold a license, the grant of a pioneer's preference is the equivalent of a license grant.

Due to the dispositive nature of a pioneer's preference, the Commission does not grant requests for such preferences casually, but places a heavy burden on proponents to demonstrate that a preference should be granted.[21/] To gain a pioneer's preference, a proponent must demonstrate that its system has sufficient merit to warrant a spectrum allocation and,

---

19/ See Establishment of Procedures to Provide a Preference to Applicants Proposing an Allocation for New Services, 6 FCC Rcd 3488, 3492 (1991), recon. granted in part, FCC 92-57 (February 26, 1992) ("Pioneer's Preference Decision").

20/ Id.

21/ Pioneer's Preference Decision, 6 FCC Rcd at 3494. See also Tentative Decision, ET Docket No. 91-280, para. 13 (February 11, 1992) ("VITA").

ultimately, the award of a license for the new service.[22/] The proponent also must demonstrate that its technology represents "an innovation beyond existing communications technology."[23/] In most cases, the Commission expects that the applicant will have conducted experiments, the results of which will aid the Commission in determining whether allocation of spectrum to a proposed service is in the public interest.[24/] If the proponent has not conducted an experiment, it must accompany its preference request with a demonstration of the technical feasibility of the new service or technology.[25/]

The Commission generally considers the grant of a preference for one discrete service area to be adequate incentive to reward an innovator. The Commission will grant a nationwide pioneer's preference only in rare cases.[26/]

22/ Pioneer's Preference Decision, 6 FCC Rcd at 3493. See also id. at 3492 ("Unless a new technology is associated with a licensable service, there is little opportunity for the Commission to create a system of rewards to encourage its implementation.").

23/ VITA para. 17. The Commission has defined an innovation to mean that "the petitioner (or its predecessor-in-interest) has brought out the capabilities or possibilities of the technology or service or has brought them to a more advanced or effective state." Pioneer's Preference Decision, 6 FCC Rcd at 3494. It has emphasized that "preferences will be granted only for innovations of some significance." Id. at 3500 n.8.

24/ Id. at 3493.

25/ Id.

26/ Pioneer's Preference Decision, 6 FCC Rcd at 3495.

To date, the Commission has tentatively granted only one pioneer's preference. That preference was awarded to Volunteers in Technical Assistance, Inc. ("VITA"), a non-profit charitable organization. VITA requested the preference for a system consisting of two low-Earth orbit ("LEO") satellites operating in the VHF and UHF bands for data communications related to VITA's humanitarian assistance to persons in other countries.[27/] The Commission found that VITA "clearly was the first both to develop LEO data communications technology and to experiment with the operation of an actual LEO system to support data communications in the VHF spectrum."[28/] Specifically, VITA had launched a rudimentary test version of its technology in 1984, had built upon this test in ensuing years by developing a more advanced system, and had actually launched and operated such a system under an experimental license obtained in early 1989. The tests and demonstration conducted under this experimental license confirmed the viability of the VITA satellites. VITA had also developed fully automated earth stations capable of tracking the experimental spacecraft and conducting communications transactions.

Moreover, VITA proposed a simple and inexpensive system that could be implemented without interference to any other of the

---

27/ VITA, paras. 1, 3.

28/ Id., para. 15.

proposed LEO systems or to other existing users of the band.[29/]

Indeed, VITA's pioneer's preference request was not only unopposed, but actually was supported by two other LEO applicants, Orbital Communications Corporation ("Orbcomm") and Starsys Inc. ("Starsys").

Orbcomm and Starsys themselves had requested pioneer's preferences for their proposals for systems that would provide commercial mobile satellite service via constellations of LEO satellites -- systems similar to those being proposed by Constellation, Ellipsat, Loral, MSCI and TRW. Notably, the Commission denied the pioneer's preference requests of Orbcomm and Starsys. Orbcomm contended that it had pioneered the development of many technologies necessary to implement the LEO MSS system it proposed, including advances in communications equipment, launch facilities, and frequency coordination procedures. VITA, para. 6. The Commission disagreed, stating that many of these technical achievements were

> relatively routine design features that most new LEO satellite licensees would be expected to accomplish. For example, planning a frequency coordination scheme and designing technical parameters and system components are actions that would be a necessary component of almost any LEO satellite operation.

29/ As a result of this lack of mutual exclusivity, grant of VITA pioneer's preference did not raise the same Ashbacker issues that would be raised in this case. See Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945).

Id., para. 17.

The Commission also declined to grant a pioneer's preference to Starsys, which had argued that its proposal to establish a commercial LEO MSS service using spread spectrum CDMA promoted multiple entry and was deserving of a pioneer's preference. The Commission stated that it was "unable to discern any unique or innovative contribution by Starsys with respect to the spread spectrum technology it proposes to use." Id., paras. 10, 18.

II. The Proposed Non-Geostationary MSS Systems Do Not Have Sufficient Merit To Justify a Preference

As noted above, a proposal deserving of a pioneer's preference must have sufficient merit for the proponent's system to be licensable in the spectrum requested. The system proposals at issue here lack such merit. As AMSC has demonstrated previously, none of these proposed systems should be licensed to operate in the RDSS spectrum, since they would cause and receive substantial harmful interference from existing and planned users of the band and would have little actual capacity. Moreover, even aside from their sharing constraints, several of the systems have severe reliability problems.

None of the non-geostationary system applicants has met its burden of establishing the technical feasibility of its proposed system. While two of the applicants have sought experimental authorizations and MSCI has been granted an experimental license, no applicant indicated that it has conducted any tests to

determine the effect on its proposed system of sharing constraints in the RDSS bands or to determine its system's reliability, let alone submitted any reports on the results of such tests.[30/] While none of the applicants addresses these issues in its pioneer's preference request, several of the applicants argue that their system applications constitute the requisite feasibility showing.[31/] The mere filing of a proposal, however, provides no assurance that the proposal will work.

There is no point in granting a dispositive preference in the licensing process to a proponent of a service that cannot or should not be licensed. As the proposed non-geostationary systems are technically deficient and cannot viably operate in the RDSS bands, none should receive a pioneer's preference.

30/ In contrast, VITA had conducted successful experiments for at least eight years to determine the feasibility of its LEO technology. See VITA, para. 16. In fact, even Orbcomm, which was denied a pioneer's preference for its proposed LEO system, had been conducting experiments with non-geostationary systems for some three years. See File No. 1379-EX-P/L-90.

31/ Loral Request at 7; MSCI Request at 2; TRW Request at 8 n.9.

III. None of the Proposals Is Sufficiently Innovative to Be Awarded a Pioneer's Preference

A. The Proposed Non-Geostationary Systems Will Provide No New Service and Will Not Substantially Enhance an Existing Service

Constellation, Ellipsat, Loral, MSCI and TRW propose to provide mobile voice and data communications service via their systems, in addition to position location service. These are all services that will be provided by the U.S. MSS system, as well as by terrestrial providers, "little LEO's," Inmarsat, and others. Quite simply, each of the non-geostationary system applicants will provide no new service at all; rather, they propose to provide MSS in the RDSS bands. This represents neither the establishment of a new service nor a substantial enhancement of an existing service.

A number of the applicants claim that their systems represent substantial enhancements to the RDSS service. However, the provision of an already existing service (MSS) in new frequency bands should not constitute the type of innovation that the Commission seeks to recognize by the pioneer's preference.[32/] Were it otherwise, any existing user would be

---

32/ Notably, none of the applicants claims any innovations in its system that would technologically enhance the provision of Radiodetermination Satellite Service itself. As AMSC has demonstrated in comments on the non-geostationary system proposals, the position location service proposed by the applicants would be far inferior to that which AMSC will provide using existing satellites. See Reply Comments of AMSC, RM-7806, RM-7771, RM-7773, RM-7805 (November 14,

(continued...)

entitled to a pioneer's preference simply for proposing to provide its service on additional frequencies.

The proposed systems also will not provide any enhancement to spectrum efficiency in the RDSS bands. As AMSC has demonstrated previously, the non-geostationary systems all face frequency sharing constraints that would severely limit their capacity. In addition, several would be extremely unreliable. Thus, the systems in fact would be highly spectrum-inefficient.

B. The Proposed Non-Geostationary Systems Feature No Technological Innovations

No applicant can claim to have developed the technology for provision of mobile voice and data via non-geostationary satellites.[33/] Thus, it is clear that the concept of a non-geostationary MSS system is neither revolutionary nor was it "pioneered" by any of the system applicants.

The key determinant of whether a pioneer's preference will be awarded is the degree to which a proposed service or

---

32/(...continued)
1991); Technical Appendix, at 2-7.

Service to hand-held units should not be considered an innovation. AMSC will provide service to transportable units in its first generation system, which should be more than adequate portability for most customers in rural areas. AMSC's June 3, 1991 applications also discussed its provision of service to hand-held units in the near future.

33/ Ellipsat admits that "[n]o applicant . . . can take sole credit for small satellite technology or the concept of a non-geostationary satellite orbit, both of which have been used by the military and scientific communities." Ellipsat Request at 2 n.5.

technology is "new" or "novel."[34/] An applicant for a pioneer's preference has the burden of demonstrating that it has developed "an innovation beyond existing communications technology."[35/] None of the applicants has met that burden.

Constellation, for example, refers to its "innovative" satellite and its "dynamic" receiver, but does not explain how these elements surpass existing technology. As to Constellation's developments in launch vehicles, these clearly are not within the class of innovation warranting an FCC pioneer's preference. See VITA, para. 17.

Ellipsat cites its "innovative system design," but admits that this design "uses existing state-of-the art technology." Ellipsat Request at 2. Similarly, Ellipsat claims to have proposed the first commercial use of an elliptical satellite orbit, not to have developed the concept.

Loral does not demonstrate how any of the system elements it cites are technological innovations. Indeed, these aspects appear to be of the type that the Commission has decided are not sufficiently technologically innovative to merit any special

---

34/ Pioneer's Preference Decision, 6 FCC Rcd at 3493.

35/ VITA, para. 17. In VITA, Orbital Communications Corporation ("Orbcomm") sought a pioneer's preference for its proposal to use a constellation of low-Earth orbit ("LEO") satellites for commercial two-way mobile satellite services for data messaging and position determination. As Constellation, Ellipsat, Loral, MSCI and TRW are now making similar claims of "innovation" for much the same type of system that Orbcomm proposed, their pioneer's preference requests are no more grantable than Orbcomm's.

preference. Furthermore, as discussed in the attached Technical Statement, the innovations cited by Loral are not new ideas.

MSCI's asserted "innovative cellular design and spot beam technology" similarly does not represent a significant achievement beyond what existed before. Indeed, AMSC proposed implementation of frequency reuse using spot beams in 1988.[36/] As shown in the attached Technical Statement, MSCI's proposal is no more than a use of this same technology. Furthermore, intersatellite links have been utilized by NASA for more than a decade, and MSCI's proposed bidirectional operation will result in no improvement in spectrum efficiency.

IV. The Public Interest Would Be Served Better by Not Granting Any of the Multiple Requests for a Nationwide Pioneer's Preference

Because the non-geostationary MSS system applicants propose to operate their systems over the entire U.S., each has sought a nationwide pioneer's preference.[37/] Recognizing the broad preclusive effect on other applicants that would result from the grant of a dispositive licensing preference on a nationwide

---

36/ Application of AMSC, Gen. Docket No. 84-1234 (February 1, 1988).

37/ Ellipsat Request at 8-9; Loral Request at 7; MSCI Request at 3; TRW Request at 8-9. Constellation does not specify the area for which it seeks a preference. However, since Constellation proposes also to serve the entire U.S. with its proposed system, it can be assumed that Constellation similarly seeks a nationwide pioneer's preference.

basis, the Commission has stated that it generally will not grant nationwide pioneer's preferences.[38/]

In this case, five applicants have sought a nationwide pioneer's preference. None, however, has proposed any technological innovation deserving of a pioneer's preference, let alone an innovation significant enough to warrant a nationwide preference. The Commission has noted that "in some cases where multiple preference requests are filed, it may better serve the public not to grant any of them."[39/] This, at best, is such a case. Thus, even if the pioneer's preference proposals of the non-geostationary MSS system applicants had some merit on other grounds, they would fail for this reason.

Conclusion

A would-be recipient of a pioneer's preference must demonstrate that it has developed a meritorious and innovative technology that facilitates the establishment of a new communications service or substantially enhances an existing service. This is not an easy test to pass, particularly in the case of an applicant seeking a nationwide preference. The non-geostationary MSS system applicants fail this test entirely.

38/ Pioneer's Preference Decision, 6 FCC Rcd at 3495.

39/ Id.

Accordingly, AMSC urges the Commission to deny each of the above-referenced requests.

Respectfully submitted,

AMSC SUBSIDIARY CORPORATION

Bruce D. Jacobs
Glenn S. Richards
Gregory L. Masters
Fisher, Wayland, Cooper & Leader
1255 23rd Street, N.W.
Suite 800
Washington, D.C. 20037
(202) 659-3494

Lon C. Levin
Vice President and
Regulatory Counsel
American Mobile Satellite
Corporation
1150 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 331-5858

Dated: April 8, 1992