GEOSTAR™ MESSAGING CORPORATION

November 13, 1990



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

Re: Comments of Geostar Messaging Corporation on the Petition for Rule Making filed by Norris Satellite Communications, Inc. (RM-7511) and the associated fixed satellite applications (File Nos. 54-DSS-P/L-90 and 55-DSS-P-90)

Dear Ms. Searcy,

Attached are the Comments of Geostar Messaging Corporation in response to the Commission's *Order*, DA 90-1591 (released November, 1990) which established a common filing date for the matters referenced above.

An original and fourteen copies are being submitted. Nine copies are filed in accordance with Section 1.51(b) of the rules in order to provide each Commissioner with a personal copy of these comments in connection with the rulemaking proceeding, and the remaining copies are to be associated with the application proceedings.

Sincerely,

Philip Schneider
President

cc: James R. Keegan, Chief, Domestic Facilities Division
Will McGibbon, Chief, Spectrum Engineering Division

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

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| In the Matter of the Petition of | ) | |
| | ) | |
| NORRIS SATELLITE COMMUNICATIONS, INC. | ) | RM-7511 |
| | ) | |
| For Amendment of Parts 2 and 25 of the Commission's Rules to Establish a General Satellite Service in the Ka-band (30/20 GHz) | ) | |
| | ) | |
| In the Matter of the Application of | ) | |
| | ) | |
| NORRIS SATELLITE COMMUNICATIONS, INC. | ) | File Nos. |
| | ) | 54-DSS-P/L-90 |
| For Authority to Construct, Launch and Operate a Communications Satellite in the Domestic Fixed-Satellite Service | ) | 55-DSS-P-90 |

## COMMENTS

Geostar Messaging Corporation (GMC) files these comments on the petition for rulemaking and applications of Norris Satellite Communications, Inc. (Norris) that are captioned above. In these filings, Norris is proposing that the Commission establish a new "General Satellite Service" in the 29.5-30.0 GHz and 19.7-20.2 GHz (30/20 GHz) bands that would combine fixed, broadcasting, mobile and personal access satellite services. To implement such a service, Norris is also requesting authority to construct two satellites in these bands and launch one of them into the geostationary satellite orbit at 90° West Longitude.

GMC is a pending applicant for authority to construct and operate a domestic mobile satellite system that would

utilize the bands requested by Norris for its feeder links and Telemetry, Tracking and Command operations.[1] GMC therefore has an interest in the technical criteria and licensing procedures that the Commission will establish in these bands in response to the Norris petition and applications.

As a general principle, GMC supports the concept of permitting space stations licensed in one radiocommunication service to provide other types of radiocommunication services, even if the bands are not allocated to such radiocommunication services, as long the additional services do not cause any more interference than the levels permitted in the original system authorization. Under such conditions, little benefit is derived by requiring individual waivers of the table of allocations before permitting operations of a satellite in more than one radiocommunication service.[2] Thus, GMC believes that the concept of a General Satellite Service may offer substantial flexibility to satellite system operators in the 30/20 GHz bands to respond quickly to changing technological and market conditions.

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[1] GMC filed its applications on June 16, 1988. The Commission has not yet accepted those applications for filing.

[2] For example, such waivers were required for domestic fixed satellites to be used to serve mobile terminals even though such operations would not cause harmful interference to other services. See, e.g., Qualcomm, Inc., FCC 89-24 (February 14, 1989), and Geostar Positioning Corporation, FCC 89-142 (May 25, 1989).

However, before the 30/20 GHz bands are re-allocated to a new General Satellite Service, a detailed technical analysis should be performed to analyze the potential impact that such a new service could have on more conventional fixed satellite uses of the bands, such as feeder links. It is well acknowledged that large inhomogeneities between satellite system parameters increase the satellite orbital separations needed to keep inter-system interference to acceptable levels absent detailed coordination between system operators.[3] Very large inhomogeneities could arise between satellites designed to provide personal access or broadcasting services to hand held user terminals and those satellites which use the band for more conventional fixed satellite purposes, such as feeder links. For example, the Norris satellites are designed to serve earth station antennas that are 30 to 120 centimeters (11.8 to 47.2 inches) in diameter[4], and Appendix A to its application discusses personal earth stations that are "handheld" in size and thus are likely to be much small than 11.8 inches in diameter.

There is increasing congestion in the 4/6 GHz and 12/14 GHz bands used by domestic fixed satellites, and the potential exists for a shortage of adequate spectrum for

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[3] See, e.g., Satellite Orbital Spacing, 54 Radio Regulations (Pike and Fischer) 577, 587 (1983).

[4] Norris application at page II-6.

feeder links below 30/20 GHz for future mobile satellite systems.[5] Since the usable orbital arc will be less at 30/20 GHz than in the lower bands because of propagation considerations, the Commission should insure that orbital separations will be small enough to accommodate a substantial number of domestic systems (whether for conventional fixed satellite services, for feeder link applications, or for services such as those proposed by Norris), as well as future systems of Canada and Mexico in these bands.

The Commission should require Norris or other proponents of a General Satellite Service to define in more precise terms the technical characteristics of the various types of applications, and in particular the mobile, broadcasting and personal access aspects, of the General Satellite Service so that the necessary technical analyses can be performed to assess the required satellite separations. On the basis of such analyses, the Commission will be able to adopt any necessary technical criteria to insure that the 30/20 GHz bands can be fully developed over the long run to satisfy the future requirements for all types of domestic satellite services that can not be accommodated in the lower bands at

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[5] The absence of terrestrial facilities in the 29.5-30.0 GHz and 19.7-20.2 GHz bands make these bands very attractive for all types of satellite services. In particular, use of these bands for GMC's feeder links, as compared to bands shared with terrestrial facilities, would allow GMC to provide its customers with a wide variety and a broad geographic distribution of access points to the mobile satellite system, either at the customer's premises or at points of interconnection with public or private terrestrial networks.

4/6 GHz and 12/14 GHz. The Commission's licensing procedures in the 6/4 GHz and 14/12 GHz bands have resulted in the rapid development of the domestic satellite industry, and this ability to authorize multiple, competing domestic satellite systems promptly, without comparative hearings or lotteries, should be preserved in the 30/20 GHz bands.

GMC therefore requests the Commission to promptly accept its applications to use the 30/20 GHz bands for mobile satellite feeder links so that they can be considered in conjunction with the Norris petition and applications. Moreover, before acting on the Norris petition to re-allocate the 29.5-30.0 GHz and 19.7-20.2 GHz bands to a new General Satellite Service, the Commission should insure that any necessary technical criteria are established to insure that all of the diverse applications, such as those proposed by GMC and Norris, can be accommodated in these bands.

Respectfully submitted,

Philip Schneider PSN

Philip Schneider
President

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November 13, 1990.

## CERTIFICATE OF SERVICE

I, Christine A. Brazeau, certify that on this 13th day of November, 1990 a copy of the foregoing "Comments" of the Geostar Messaging Corporation was mailed first-class to:

John H. Norris
Norris Satellite Communications
Box 88
Red Lion, PA 17356

Leslie A. Taylor, Esq.
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