BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

Public Reference

In the Matter of	)	
	)	
NORRIS SATELLITE COMMUNICATIONS, INC.	)	File Nos.
	)	54-DSS-P/L-90
Application for Authority to Construct Launch and Operate Communications Satellites in the Domestic Fixed-Satellite Service	)	55-DSS-P-90

REPLY TO OPPOSITION

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SUMMARY

GTE Spacenet Corporation continues to oppose Norris Satellite Communications, Inc.'s proposal to establish a general satellite service at Ka-band and its application for authority to construct, launch and operate such satellites. GTE Spacenet has no objection to Norris or any other qualified applicant being authorized to operate satellites in the fixed-satellite service at Ka-band, provided that the applicant demonstrates compliance with all of the Commission's qualifications and operational standards for FSS applicants.

Norris, however, proposes to provide a combination of FSS, mobile satellite service and direct broadcast service over its satellites. Norris has failed to demonstrate that FSS, MSS and DBS service can be provided on a co-frequency, co-satellite basis. As GTE Spacenet explained in its petition to deny Norris's application and in its comments on R.M. No. 7511 and as the Commission has noted previously, these services are operationally incompatible with each other. In order to provide FSS and DBS on a co-frequency, co-satellite basis, it would be necessary to provide for wider orbital spacings than would otherwise be necessary to accommodate FSS operations at Ka-band. The incompatibility of these services with each other is caused by the relative differences in their power levels. Those relative power differences are independent of the absolute power

differences between C-band and Ku-band on one hand and Ka-band on the other.

Further, recent developments in digital compression technology will make it possible to provide direct satellite-to-home video programming using FSS satellites without disrupting FSS operations. It may also be possible for Norris to provide MSS services without any spectrum reallocation since MSS currently is allocated to Ka-band on a secondary basis.

Finally, Norris still has not met the financial qualifications standards applicable to FSS that are codified at Section 25.391(d) of the Commission's Rules. GTE Spacenet recognizes that Norris has applied to operate its satellites in a currently-unused frequency band. Thus, it does not object to a somewhat more relaxed financial standard for Norris. However, Norris should be required to report to the Commission periodically on the progress of its capital raising efforts, to obtain financing within twelve months of grant and to complete construction within three years of obtaining financing.

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

In the Matter of NORRIS SATELLITE COMMUNICATIONS, INC. Application for Authority to Construct Launch and Operate Communications Satellites in the Domestic Fixed-Satellite Service	File Nos. 54-DSS-P/L-90 55-DSS-P-90

REPLY TO OPPOSITION

GTE Spacenet Corporation ("GTE Spacenet"), by its attorneys, hereby replies to the opposition of Norris Satellite Communications, Inc. ("Norris") to GTE Spacenet's petition to deny the above-captioned application of Norris, and states as follows.

I. INTRODUCTION

On July 16, 1990, Norris filed with the Commission an application for authority to construct two satellites and launch one to operate in the Domestic Fixed-Satellite Service (FSS). Unlike other FSS applications previously before the Commission, Norris proposes to operate its satellites at frequencies in the 19.5 - 20.2 GHz (downlink) and 29.3 - 30.0 GHz (uplink) bands, commonly referred to as the Ka-band.

Had Norris's proposal been limited to providing FSS service at Ka-band, GTE Spacenet would not have opposed the application, provided that Norris had demonstrated compliance with the qualifications and operational standards established by

the Commission for all FSS licensees. Norris's proposal, however, contemplates something quite different from provision of FSS services at Ka-band.

Simultaneously with the filing of its application, Norris filed a petition for rulemaking. In its rulemaking petition, Norris proposes the reallocation of the 19.7 - 20.2 GHz and 29.5 - 30.0 GHz bands in the Commission's Table of Frequency Allocations[1/] to a new service which Norris calls a "general satellite service." The proposed general satellite service is not a new service at all; rather it is a combined allocation of three existing services -- FSS, mobile satellite service (MSS) and direct broadcast satellite service (DBS) -- to the same frequency bands. Norris's application -- despite being styled as an application to provide FSS service -- is in reality an application to operate satellites in the not-yet-allocated general satellite service. Norris has not provided any technical analysis which supports its contention that these three disparate services can be provided on a co-satellite co-frequency basis without necessitating wider orbital spacings than would be required for FSS or without causing intolerable interference to FSS services. Therefore, GTE Spacenet has found it necessary to oppose Norris's petition for rulemaking and its application.

GTE Spacenet has opposed Norris's proposed general satellite service primarily because it would constitute an

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1/ 47 C.F.R. §2.106.

inefficient use of spectrum and would reduce available frequencies and orbital locations for FSS -- a service which has experienced a two decade long constant growth of demand -- in order to provide additional orbital locations and spectrum for MSS and DBS -- services for which there is no current or anticipated need for additional orbital locations or frequencies.[2/]

As noted in GTE Spacenet's petition to deny, grant of Norris's application combined with reallocation of frequencies to create a general satellite service, would afford Norris substantial competitive advantages over other FSS service providers since Norris's FSS operations would not be subject to the same regulatory and operational constraints as other FSS satellite operators. GTE Spacenet demonstrated that Norris's application did not comply with the Commission's FSS qualifications requirements, primarily the financial qualifications standards promulgated for all FSS applicants.[3/]

2/ See, Norris Satellite Communications, Inc. petition for amendment of Parts 2 and 25 of the Commission's Rules to establish a general satellite service in the Ka-band, RM-7511, comments of GTE Spacenet, filed November 13, 1990. Even those that are proponents of additional spectrum for MSS do not believe that the solution to MSS spectrum needs can be found at Ka-band. See, e.g., comments of the American Mobile Satellite Corporation (AMSC) in RM No. 7511, filed November 13, 1990, at 2. ("Norris's proposal does not, however, hold out an immediate prospect for solving the spectrum shortage for MSS in the L-band.")

3/ Petition to deny of GTE Spacenet, filed November 13, 1990.

II. NORRIS HAS NOT DEMONSTRATED THAT FSS, MSS AND DBS CAN COEXIST AT Ka-BAND

In opposing the general satellite service proposal, GTE Spacenet pointed out that FSS and DBS were operationally incompatible with each other. FSS and MSS also are operationally incompatible. The higher power densities and small aperture antennas which are necessary to permit DBS operations have necessitated nine degree spacing for DBS satellites rather than two degree spacing now required by the Commission for FSS satellites. By combining DBS, MSS and FSS operations on the same frequencies on the same satellites, general satellite service satellites would appear to need the maximum spacing currently required for DBS satellites -- nine degrees.[4/] That would reduce to two or three the number of orbital locations available to provide CONUS service at Ka-band.[5/] Moreover, the Commission previously has recognized that the operational incompatibility of FSS and DBS would require "inordinately large orbital separation."[6/]

4/ GTE Spacenet comments at 4.

5/ RM No. 7511, Comments of GTE Spacenet at 5-6. As GTE Spacenet noted in those comments, fifty state coverage at Ka-band would not be attainable from any orbital locations. Since it would take two satellites to provide fifty state coverage, at nine degree spacing only one Ka-band satellite system could be accommodated.

6/ An Inquiry Relating to Preparation for the 1983 Region 2 Administrative Radio Conference of the International Telecommunication Union for the Planning of the Broadcasting - Satellite Service in the 12 GHz Band and Associated Uplinks, Docket No. 80-398 (Second Notice of Inquiry) FCC 81-248, released

(continued...)

Similarly, MSS operations are incompatible with FSS services. There have been occasions where the Commission has approved use of FSS satellites to provide non-FSS services. However, those cases have not involved co-satellite co-frequency transmissions as proposed by Norris. Moreover, in each of those situations, use of FSS satellites to provide non-FSS services was approved only after a Commission finding that there would be no significant impact on FSS operations.[7/] In another case, non-FSS use of a FSS satellite was approved only on an "ancillary" basis.[8/]

Recently, the Commission recognized the inherent incompatibility of FSS and MSS operations when it refused to permit AMSC -- a MSS permittee -- to use FSS frequencies at a central orbital location for its feeder links. In rejecting AMSC's request, the Commission declined to limit the operation of FSS satellites as would have been necessitated by AMSC's central location proposal. The Commission stated as follows:

> We will not prevent a domestic satellite [FSS] licensee from operating at full

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6/ (...continued)
June 5, 1983 at para. 15.

7/ GTE Spacenet Corporation, 2 FCC Rcd 5312, 5313 (1987).

8/ Geostar Positioning Corporation, Mimeo No. 6144, released August 7, 1986.

capacity from this location, especially where other alternatives are available.[9/]

Nothing in Norris's application, its petition for rulemaking or its responsive pleadings filed on January 7, 1991 demonstrate that MSS, DBS and FSS services can be provided on a co-satellite co-frequency basis without reducing the number of orbital locations available for FSS. While Norris suggests that nine degree spacing would not be necessary for DBS operations at Ka-band and that the nine degree requirement was adopted by the Commission for the 12.2 - 12.7 GHz band only, in order to implement the 1983 Region 2 Broadcasting Service plan,[10/] it has provided nothing to support its contention that DBS and FSS could coexist at Ka-band in a reduced spacing environment. As Norris recognizes, nine degree spacing was adopted in 1983 to ensure that each Region 2 administration would have at least one DBS orbital location. This would be no less true for Ka-band DBS.

Whether the Commission's nine degree spacing requirement for DBS satellites is applicable to all DBS operations or is limited only to Ku-band operations is not the point. What matters is that the technical concerns which led to the 1983 Region 2 agreement and the Commission's nine degree DBS spacing policy are fully applicable as well to Ka-band DBS

9/ Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, et. al., FCC 89-364, released January 11, 1990 at paragraph 39.

10/ Norris opposition at 10.

operations. Norris, as the proponent of co-frequency co-satellite DBS, MSS and FSS operations, must carry the burden of demonstrating that its plan can work. It has not done so. It states that it is "confident" that it can demonstrate that close orbital spacing would be possible, with provision of FSS and point-to-multipoint services.[11/] It has not provided any technical analysis to support that confidence.

GTE Spacenet agrees with Norris that some point-to-multipoint services can be provided satisfactorily in a reduced spacing environment, for example, Very Small Aperture Terminal (VSAT) networks. VSAT networks, unlike DBS and MSS services, are FSS services. They do not require the substantially higher power densities necessary to provide DBS or MSS services. DBS and MSS incompatibility with FSS is not caused by their being point-to-multipoint services. As noted, some FSS services are point-to-multipoint. Rather it is the result of the relative differences in power levels needed for DBS and MSS operations vis-a-vis FSS operations. These relative power differences are independent of the absolute power level differences between C-band and Ku-band operations on the one hand and Ka-band operations on the other. In asserting that DBS, MSS and FSS could operate compatibly in a Ka-band general satellite service, Norris disregards the relative power differences needed to provide DBS and MSS services vis-a-vis FSS service in any frequency band.

11/ Norris reply comments, RM 7511, at 5.

There is yet another reason why GTE Spacenet opposes use of FSS frequencies at Ka-band to provide DBS. In the very near future, direct satellite-to-home video service will become possible using FSS satellites without disrupting other FSS operations. The development of digital compression technology will enable as many as eight video signals to be transmitted on a single transponder within the power limitations established for FSS at Ku-band. These digitally compressed signals will be receivable at homes equipped with small (one meter) antennas which are only slightly larger than those contemplated for DBS transmission. As a result, DBS-type services will be able to be provided to consumers over FSS satellites in a manner which will not be disruptive of other FSS services.

In view of the impending availability of FSS satellite-to-home video services, there is no reason to allocate frequencies to a general satellite service or to otherwise allow a FSS licensee to use FSS frequencies -- even at Ka-band -- in a manner which would reduce the availability of spectrum and orbital locations for FSS services or interfere with the provision of those services. Of course, digital compression technology will be available to all FSS operators, including Norris. Norris, like all other FSS licensees, will be able to offer satellite-to-home video services using digital compression technology in a manner compatible with other FSS operations and without the need to combine DBS and FSS in a general satellite service.

Norris may also be able to provide mobile services over its FSS satellites without spectrum reallocation and creation of a general satellite service. MSS already is allocated on a secondary basis to the Ka-band frequencies sought by Norris. Pursuant to that secondary allocation, Norris will be allowed to offer MSS services provided that it demonstrate that those MSS services will not interfere with FSS operations and that its MSS operations will not necessitate greater orbital spacing than would be necessary for FSS. If Norris is able to successfully coordinate its MSS operations with the FSS operations of other satellites within the orbital spacing deemed appropriate by the Commission for Ka-band FSS services, it will be able to provide MSS over its Ka-band satellites -- even within the current allocations. If Norris's MSS operations cannot be successfully coordinated, then its provision of MSS services would be disruptive to FSS operations. Such disruptions should not be countenanced either by allowing frequency usages which interfere with a primary allocation or by reallocating to a service that is operationally incompatible with the service now allocated to those frequencies on a primary basis.

III. NORRIS HAS FAILED TO DEMONSTRATE ITS FINANCIAL QUALIFICATIONS

In its petition to deny, GTE Spacenet showed that Norris's application did not meet the financial qualifications

standards for FSS applicants promulgated by the Commission,[12/] and that Norris was not entitled to a waiver of the financial qualifications requirements.[13/] Norris's opposition does not even attempt to demonstrate compliance with the Commission's financial standards for FSS applications. Rather, it asks the Commission to apply more flexible financial standards noting that flexible standards sometimes have been applied to new services.[14/]

As GTE Spacenet noted in its comments on Norris's rulemaking petition, the proposed general satellite service is not a "new" service at all, but is rather the combining of three existing services in one frequency band.[15/] Moreover, Norris's application is styled as an FSS application and there is no justification to exempt Norris from the license qualification requirements -- including financial requirements -- applicable to all other FSS applicants.

Financial qualification standards for FSS applicants were not, as suggested by Norris, introduced in order to conclude a processing round expeditiously without hearings or to avoid tying up scarce orbital locations by firms unable to proceed with

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12/ GTE Spacenet petition at 10-13.

13/ Id., 13-16.

14/ Norris opposition at 16-17.

15/ Because the proposed general satellite service is not a "new" service, GTE Spacenet also has objected to Norris's request that it be awarded a "pioneers' preference." See, RM No. 7511, initial comments of GTE Spacenet at 14-17.

prompt construction of facilities.[16/] Rather, adoption of financial qualifications standards by the Commission for all radio services, including FSS, is a statutory obligation. Section 308(b) of the Communications Act states, in relevant part, as follows:

> All applications for station licenses ...shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical and other qualifications of the applicant to operate the station.[17/]

Under the Act, the Commission is empowered to promulgate financial qualification regulations specific for a particular service, but it may not ignore an applicant's financial qualifications or lack thereof in awarding licenses. The financial showing made by Norris is insufficient to determine its financial qualifications by any standard.

GTE Spacenet recognizes that Norris proposes to operate its satellite in a currently-unused frequency band. Accordingly, it would not object to a somewhat more relaxed financial standard for Norris than the stringent Ultravision[18/] standard normally applicable to FSS applicants. However, any such adjustment to the Ultravision standard for Norris must be subject to conditions that Norris provide information sufficient to demonstrate to the Commission that it will be able to construct within a reasonable

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16/ Norris opposition at 16-17.

17/ 47 U.S.C. §308(b)(1988) (emphasis added).

18/ 1 FCC 2d 544 (1965). See, 47 C.F.R. §25.391(d).

timeframe and that Norris provide the Commission with periodic reports on its capital raising and construction activities.

As GTE Spacenet noted in its petition to deny, previous decisions by the Commission to allow FSS and other satellite applicants to be subject to "due diligence" financial requirements have not worked well.[19/] Based upon those experiences, any deviation from the Ultravision standard applicable to all other FSS applicants must be carefully conditioned on adherence to a strict construction timetable. Further, if the Commission elects to afford Norris the benefit of a more flexible financial qualifications standard than the standard promulgated for FSS applicants, that standard must deviate as little as possible from the normally applicable FSS standard. It should afford Norris a reasonable opportunity to obtain the requisite financing but not permit Norris to hold a Commission permit indefinitely while it searches for funding. More importantly, the Commission should accompany any such adjustment of its financial qualifications standards for Norris with an explanation of the unique circumstances which warrant the special treatment (e.g., that Norris has applied for a currently-unused frequency band). In carving out narrow exceptions to the FSS processing standards, the Commission should avoid the beginnings of a gradual erosion of those carefully developed standards through a series of ad hoc modifications and waivers.

19/ GTE Spacenet petition at 14-16.

CONCLUSION

For the reasons discussed in its petition to deny and its comments in RM No. 7511, provision of FSS, DBS and MSS using the same frequency band on the same satellite has not been shown to be workable. The need for wider orbital separation necessary to prevent DBS and MSS interference with FSS services are no less great at Ka-band than at C-band or Ku-band.

In addition, the financial information provided by Norris does not enable the Commission to conclude that Norris is financially qualified, either under the processing standard applicable to other FSS applicants or under any other reasonable financial standard.

Accordingly, GTE Spacenet again asks the Commission to deny Norris' application. Alternatively, if the application is not denied, then it urges the Commission to grant Norris' application only subject to conditions that Norris demonstrate compliance with two degree spacing or other reduced spacing requirements determined by the Commission to be appropriate for Ka-band operations for all services provided over its satellite and that it be subject to a "due diligence" standard which would require that Norris periodically report to the Commission on the status of its capital raising efforts, that it obtain financing within twelve months of grant and that it complete construction within three years of obtaining the necessary financing.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing "Reply to Opposition" of GTE Spacenet Corporation has been sent this 22nd day of January 1991, first class U.S. mail, postage prepaid, to the following:

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