

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

SEP 20 2004

In the Matter of)	
)	
contactMEO Communications, LLC)	File Nos. SAT-LOA-19971222-00222
)	SAT-AMD-20040322-00057
)	SAT-AMD-20040719-00141
and)	
)	
Northrop Grumman Space & Mission Systems Corporation)	File Nos. SAT-LOA-19970904-00080/84
)	SAT-LOA-19971222-00219
)	SAT-AMD-20031104-00324
)	SAT-AMD-20040312-00030/34
)	SAT-AMD-20040719-00136/40
)	Int'l Bureau
Applications for Authority to Launch and Operate Geostationary Orbit and Non-Geostationary Orbit Satellites in the Fixed-Satellite Service)	SEP 15 2004
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**CONSOLIDATED PETITION TO DISMISS OR DENY
OF SES AMERICOM, INC.**

Federal Communications Commission
Office of Secretary

SES AMERICOM, Inc. ("SES AMERICOM"), by its attorneys and pursuant to Section 25.154 of the Commission's Rules, 47 C.F.R. § 25.145, hereby petitions the Commission to dismiss or deny the above-captioned applications of contactMEO Communications, LLC ("contactMEO") and Northrop Grumman Space & Mission Systems Corporation ("Northrop Grumman"). Both applicants seek to use Ka-band spectrum in ways that conflict with the Commission's band plan, and neither party has justified a waiver of the band plan requirements. Under these circumstances, Commission precedent requires that the applications be rejected.

I. BACKGROUND

The amendments at issue here represent significant changes to applications that were originally filed in 1997. ContactMEO originally requested authority for a Ka-band system

consisting solely of non-geostationary orbit (“NGSO”) spacecraft that were to operate in a medium earth orbit (“MEO”). The instant amendment changes the orbital configuration of the proposed NGSO spacecraft to a highly elliptical orbit (“HEO”) and adds four geostationary orbit (“GSO”) spacecraft to the proposed fleet.¹ ContactMEO requests authority for the HEO satellites to operate in Ka-band spectrum where NGSO systems are primary, the 28.6-29.1 GHz and 18.8-19.3 GHz bands, but also requests authority to use spectrum allocated to GSO operations, at 29.5-30.0 GHz and 19.7-20.2 GHz. *Id.* at 3. The proposed GSO satellites in the contactMEO system would operate solely in spectrum allocated to NGSO systems, the 28.6-29.1 GHz and 18.8-19.3 GHz bands. *Id.*

Northrop Grumman (previously TRW, Inc.) originally applied for a system consisting of both GSO and NGSO satellites to be operated in V-band spectrum.² That application was subsequently amended to add Ka-band payloads to the GSO and NGSO spacecraft. *Id.* The applications for authority to operate GSO spacecraft in Ka-band spectrum were processed and granted, but Northrop Grumman later surrendered the licenses. *Id.* at 7-8 n.8. Now Northrop Grumman is proposing to change the NGSO component of its system from MEO to HEO satellites and to have four GSO satellites that would operate in Ka-band and V-band spectrum. *Id.* at 1-2. Like contactMEO, Northrop Grumman seeks authority to have its HEO satellites operate in Ka-band spectrum where GSO operations are primary, in addition to the NGSO-primary portions of the Ka-band. *Id.* at 5. Northrop Grumman also proposes to have its GSO spacecraft operate in NGSO-primary Ka-band spectrum. *Id.*

¹ See Amendment of contactMEO Communications, LLC, File No. SAT-AMD-20040322-00057 (“contactMEO Amendment”), Narrative at 1-2.

² See Amendment of Northrop Grumman Space & Mission Systems Corporation, File No. SAT-AMD-20040312-00030 (“Northrop Grumman Amendment”), Narrative at 7.

The International Bureau initially dismissed both the contactMEO and Northrop Grumman applications for failure to provide information required under the Commission's Rules.³ The applications were subsequently reinstated, however, because the Bureau determined that the requirements might not have been sufficiently clear.⁴ The Bureau ordered the applicants to file supplemental information and later put the applications as supplemented on public notice.⁵

SES AMERICOM is a party in interest in these application proceedings as a Ka-band licensee. SES AMERICOM is preparing to launch AMC-15 and AMC-16, two GSO spacecraft with Ka-band payloads that will be deployed to the 105° W.L. and 85° W.L. orbital locations, respectively. As such, SES AMERICOM has a direct interest in ensuring that its ability to use Ka-band spectrum allocated to GSO operations is not impaired. SES AMERICOM (through its predecessor GE American Communications, Inc.) also has sought access to NGSO-primary Ka-band spectrum for its GSO operations, but that application was dismissed because the Commission had not adopted rules to permit sharing of the band.⁶ Thus, SES AMERICOM has an interest in any proposal for spectrum use that is inconsistent with the policies that were applied to the GE Americom application.

³ See letter of Thomas S. Tycz, Chief, Satellite Division, International Bureau, to David Drucker, Manager, contactMEO Communications, LLC dated May 18, 2004 (DA 04-1386); letter of Thomas S. Tycz, Chief, Satellite Division, International Bureau, to Peter Hadinger, Northrop Grumman Space & Mission Systems Corporation dated May 18, 2004 (DA 04-1387).

⁴ See letter of Thomas S. Tycz, Chief, Satellite Division, International Bureau, to David Drucker, Manager, contactMEO Communications, LLC dated June 16, 2004 (DA 04-1722) ("contactMEO Reinstatement Letter"); letter of Thomas S. Tycz, Chief, Satellite Division, International Bureau, to Peter Hadinger, Northrop Grumman Space & Mission Systems Corporation dated June 16, 2004 (DA 04-1725) ("Northrop Grumman Reinstatement Letter").

⁵ See Policy Branch Information, Satellite Space Applications Accepted for Filing, Report No. SAT-00234 (Aug. 13, 2004).

⁶ GE American Communications, Inc., *Memorandum Opinion and Order*, 16 FCC Rcd 14306 (Int'l Bur. 2001).

II. THE APPLICATIONS CONFLICT WITH THE COMMISSION'S KA-BAND SPECTRUM RULES

The Commission's band plan for Ka-band spectrum was developed after a lengthy proceeding with participation by numerous parties representing a broad range of services. In evaluating various proposals, the Commission explicitly considered whether it was appropriate to authorize secondary use of spectrum allocated on a primary basis to another service. The Commission adopted discrete designations for NGSO FSS and GSO FSS systems based on its determination concerning the feasibility of sharing between the services.

For example, in its decision concerning the rules applicable to the 18 GHz downlink band, the Commission noted that its initial proposal would have allowed "secondary use of the entire 18 GHz band by terrestrial fixed services, GSO/FSS and NGSO/FSS (in bands where the particular service did not enjoy either a primary or co-primary allocation) to provide flexibility throughout the band."⁷ However, the Commission concluded that "secondary use of the 18 GHz band is not viable because it would unreasonably inhibit ubiquitous deployment of these services and limit the use of spectrum by primary users of the bands." *Id.* at 13456-57.

On reconsideration, the Commission affirmed its holding with respect to FSS spectrum:

We find the record in this proceeding to be insufficient to determine whether and how GSO/FSS systems can operate on a secondary basis in NGSO/FSS bands, and whether and how NGSO/FSS systems can operate on a secondary basis in GSO/FSS primary bands. We find that by removing secondary operations in these bands, the Commission has lessened the potential for harmful interference to the primary service in each band and avoided disruptions that

⁷ Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order*, 15 FCC Rcd 13430, 13456 (2000) ("18 GHz Order") (footnote omitted); *aff'd* 16 FCC Rcd 19808 (2001).

could occur to users of secondary services. Moreover, we find that detailed service rules would have to be developed and adopted before secondary operations could be authorized in primary satellite bands. We find that these rules would be necessary to ensure that the primary service is adequately protected from harmful interference, and that operators of secondary service have a reasonable expectation of being able to provide service.⁸

Similarly, in establishing allocations in the 28 GHz uplink bands, the Commission did not provide for any overlap in the portions of the band allocated for primary operations of GSO and NGSO FSS systems. The Commission observed that its plan “designates co-frequency sharing in band segments where the Commission and the parties have concluded it is technically feasible.”⁹

Thus, the Commission’s Ka-band plan decisions rely on segmentation of spectrum between GSO and NGSO systems. In considering applications that propose spectrum use inconsistent with the band plan, the Commission has evaluated “whether the proposed system can operate in a manner that will not cause harmful interference to any primary services,” and whether the applicant “has justified any necessary waivers of the Table of Frequency Allocations.”¹⁰

⁸ Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *First Order on Reconsideration*, 16 FCC Rcd 19808, 19822 (2001) (footnote omitted).

⁹ Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Services and for Fixed Satellite Services, *First Report and Order and Fourth Notice of Proposed Rulemaking*, 11 FCC Rcd 19005, 19024 (1996).

¹⁰ EchoStar Satellite LLC, *Memorandum Opinion and Order*, DA 04-1167, Sat. Div. rel. Apr. 29, 2004 (“*EchoStar Order*”) at ¶ 15.

The applications here do not satisfy these tests. Accordingly, consistent with its precedent the Commission must deny the applications.

A. Commission Policies Do Not Permit NGSO Operations in Ka-Band Spectrum Allocated to GSO Systems

The applicants' proposals to use GSO spectrum for NGSO operations conflict with Commission policies. Both contactMEO and Northrop Grumman propose to have their HEO spacecraft use spectrum at 19.7-20.2 GHz and 29.5-30.0 GHz where GSO systems have sole primary status.¹¹ Recognizing that their proposals do not accord with the Commission's spectrum allocations, each company seeks a waiver of the Ka-band plan.¹² Each argues that it can operate without interfering with GSO spectrum use because it will comply with equivalent power flux-density ("EPFD") limits specified in Article 22 of the ITU Radio Regulations.¹³

Compliance with international EPFD limits in the Ka-band, however, cannot form the basis for justifying a departure from the Commission's spectrum allocations. These limits have not been considered, much less adopted, by the FCC. The Commission is obligated to make its own determination regarding whether sharing of GSO Ka-band spectrum by NGSO systems should be permitted, and if so, under what conditions.

In similar circumstances, when NGSO use of Ku-band spectrum allocated to GSO and broadcast-satellite service operations was proposed, the Commission conducted a rulemaking proceeding to evaluate whether international EPFD limits were appropriate for use in domestic licensing proceedings. The FCC noted that although the U.S. had participated in the international study group that developed the limits,

¹¹ The applicants propose to operate in this spectrum on a secondary basis. However, while NGSO systems have a secondary allocation in the 29.5-30.0 GHz band, there is no NGSO allocation in the 19.7-20.2 GHz band. *See 18 GHz Order* at 13435, 13443.

¹² *See contactMEO Amendment* at 16-18; *Northrop Grumman Amendment* at 26-27.

¹³ *See contactMEO Amendment* at 16-17; *Northrop Grumman Amendment* at 26-27.

ITU-R study group deliberations are based on the technical input of many administrations that often have different domestic spectrum uses that result in different potentials for spectrum sharing. The conclusions of the study group may have general technical applicability, based on each administration's input and the resultant compromise, but may not adequately address specific, domestic sharing conditions. Consequently, it is essential that we develop in this proceeding an independent record regarding the possibility of implementing NGSO FSS in the U.S., given our unique and extensive use of the Ku-band. By doing so, we will be able to develop and, if appropriate, adopt technical limits and spectrum sharing criteria suitable for domestic NGSO FSS operations.¹⁴

The Commission has not made this type of detailed examination of the domestic implications of the Ka-band EPFD limits that were adopted internationally. Neither contactMEO nor Northrop Grumman provides any justification for applying the EPFD limits domestically in advance of Commission consideration of their suitability for U.S. spectrum policy. Until such time as the Commission revisits its prior determination that NGSO systems cannot operate in GSO Ka-band spectrum on a secondary basis and conducts a rulemaking proceeding to develop the appropriate conditions for such operation, it cannot consider the contactMEO and Northrop Grumman proposals.

B. Commission Precedent Bars GSO Use of Ka-Band Spectrum Allocated to NGSO Systems

The applicants' proposals to use NGSO spectrum for GSO operations are also fundamentally inconsistent with Commission policies and must be denied. Both parties seek

¹⁴ Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range and Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and their Affiliates, *Notice of Proposed Rulemaking*, 14 FCC Rcd 1131, 1141 (1998).

authority for GSO spacecraft to operate in Ka-band spectrum allocated on a sole primary basis to NGSO services at 18.8-19.3 GHz and 28.6-29.1 GHz.¹⁵

In applying its Ka-band allocation rules, the Commission has consistently rejected proposals seeking authority to operate GSO spacecraft in NGSO Ka-band spectrum. Most recently, the Satellite Division accepted arguments made by Northrop Grumman and denied applications filed by EchoStar Satellite LLC (“EchoStar”) for authority to operate four GSO satellites using Ka-band frequencies designated for NGSO operations. *See EchoStar Order*, DA 04-1167 at ¶ 4.

In evaluating the EchoStar applications, the Division noted that the Ka-band plan adopted by the Commission relied on segmentation of spectrum to ensure that GSO and NGSO operations could operate without interference. *Id.* at ¶ 11. In its band plan decisions, the Division said, the Commission had “already addressed the issue of GSO/NGSO sharing in the Ka-band and determined that sharing is not now possible.” *Id.* at ¶ 14. EchoStar had filed a petition for rulemaking seeking changes in the band plan to allow co-primary GSO operations in the relevant band, and had also requested a waiver of the band plan. In support of the waiver, EchoStar committed to ceasing operations upon notification from an NGSO operator that it was experiencing harmful interference. *Id.* at ¶ 16.

The Division concluded, however, that this commitment was not sufficient. *Id.* It cited to an earlier decision involving Astrolink, in which the International Bureau held that “before GSO FSS systems could operate on a non-harmful interference basis relative to NGSO FSS systems, an interference protection level must be established to protect NGSO FSS

¹⁵ The applicants propose to use this spectrum on a secondary basis. However, while GSO systems have a secondary allocation in the 28.6-29.1 GHz band, there is no GSO allocation in the 18.8-19.3 GHz band. *See 18 GHz Order* at 13435, 13443.

operations and such studies have not been completed.”¹⁶ “Absent NGSO FSS protection criteria,” the Division said, “the Commission cannot fully assess the impact that proposed GSO and NGSO sharing will have on NGSO FSS operations.”¹⁷ The Division concluded that EchoStar had failed to demonstrate that it could operate on a non-harmful interference basis to NGSO systems. *Id.*

Neither applicant here provides any justification that could warrant a different outcome than the one reached in the *EchoStar* decision. Each company submits a technical showing that purports to demonstrate that no unacceptable interference would be caused to NGSO systems.¹⁸ But as the Division observed in *EchoStar*, the Commission has not set protection criteria for NGSO systems. An applicant cannot possibly show that its operations satisfy interference protection levels that have not yet been established.

Furthermore, in each case here, the mechanism to protect NGSO operations is to terminate GSO use of the spectrum during “in-line” interference events. That approach is fundamentally no different than EchoStar’s commitment to cease operations in order to avoid interference to NGSOs, which the Satellite Division has already found is insufficient to warrant departure from the band plan.

Northrop Grumman and contactMEO also attempt to characterize their proposed GSO spacecraft as simply a “GSO plane” of their NGSO systems, and argue that they should

¹⁶ *Id.* at ¶ 17 (citing Astrolink International, LLC, *Order and Authorization*, 16 FCC Rcd 20124, 20127 (Int’l Bur. 2001).

¹⁷ *EchoStar Order* at ¶ 17.

¹⁸ Amendment of contactMEO, File No. SAT-AMD-20040719-00141 (“contactMEO Supplement”), Narrative at 2-4 & Annex 3; Amendment of Northrop Grumman, File No. SAT-AMD-20040719-00140 (“Northrop Grumman Supplement”), Narrative at 3-5 & Annex 3.

therefore be treated as NGSO satellites.¹⁹ The Commission's rules, however, define the relevant terms. A "geosynchronous satellite" is an "earth satellite whose period of revolution is equal to the period of rotation of the Earth about its axis." 47 C.F.R. § 2.1(c). Similarly, a "geostationary satellite" is a "geosynchronous satellite whose circular and direct orbit lies in the plane of the Earth's equator and which thus remains fixed relative to the Earth; by extension, a satellite which remains approximately fixed relative to the Earth." *Id.* Both the Northrop Grumman and contactMEO GSO satellites clearly fit these definitions. In fact, by ordering the applicants to submit two-degree spacing analyses, which are required only for GSO spacecraft, the Division has already recognized these satellites for what they are.²⁰ The applicants' creative attempts to define their geostationary orbit satellites as elements of a non-geostationary constellation cannot change the nature of the spacecraft or their orbits.

In opposing the EchoStar applications, Northrop Grumman emphasized that the Commission had not yet acted on EchoStar's petition for a rulemaking to effectuate an across-the-board change in spectrum allocations. Allowing EchoStar's applications to remain pending while rule changes were considered, Northrop Grumman stated, "would be prejudicial to other potential GSO FSS applicants that might wish to apply should the rules be modified."²¹ By the same analysis, the Commission cannot allow contactMEO and Northrop Grumman to obtain date priority over other prospective applicants to use NGSO spectrum on GSO satellites while it

¹⁹ ContactMEO Supplement, Narrative at 2-3; Northrop Grumman Supplement, Narrative at 3.

²⁰ See contactMEO Reinstatement Letter at 2-3; Northrop Grumman Reinstatement Letter at 2-3.

²¹ Consolidated Petition to Dismiss of Northrop Grumman Space & Mission Systems Corporation, File Nos. SAT-LOA-20030827-00180/00182/00185/00187, filed Oct. 24, 2003, at 2.

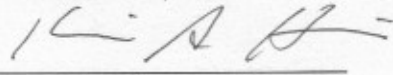
weighs whether to modify its spectrum policies.²² For these reasons, the Commission must dismiss the contactMEO and Northrop Grumman proposals.

III. CONCLUSION

The contactMEO and Northrop Grumman proposals for use of Ka-band spectrum directly conflict with the Commission's allocation rules, and neither applicant has justified a waiver of Commission requirements. Accordingly, Commission precedent mandates that these applications be denied or dismissed.

Respectfully submitted,

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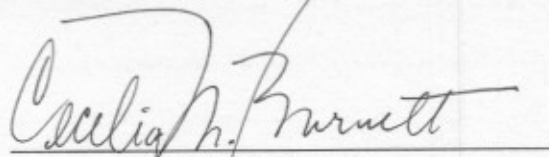
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²² As noted above, EchoStar has requested that the Commission conduct a rulemaking regarding GSO operation in Ka-band spectrum where NGSO systems are primary. SES Americom supported the commencement of such a rulemaking. See Comments of SES AMERICOM, Inc., RM No. 10767 (Oct. 27, 2003).

CERTIFICATE OF SERVICE

I, Cecelia Burnett, do hereby certify that on this 13th day of September, 2004, copies of the foregoing "Consolidated Petition to Dismiss or Deny of SES Americom, Inc." were served to the following parties by first class mail:


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