Federal Communications Commission
Washington, DC 20554

International Bureau

DA 04-1725

June 16, 2004

Mr. Peter Hadinger
Northrop Grumman Space & Mission Systems Corporation
1000 Wilson Boulevard
Arlington, VA 22209

Re: Northrop Grumman Space & Mission Systems Corporation Proposed Ka-Band/V-Band Hybrid Fixed-satellite Service Network:
Application and Amendments to Application for Authority to Operate a Global Satellite System Employing Geostationary and Non-Geostationary Satellites in the Fixed-satellite Service – File Nos. SAT-LOA-19970904-00080, SAT-AMD-19971222-00219, SAT-AMD-20031104-00324, SAT-AMD-20040312-00030 (S2254)
Applications and Amendments to Applications for Authority to Operate a Geostationary Satellite in the Fixed-satellite Service – File Nos. SAT-LOA-19970904-00081, SAT-AMD-20040312-00032 (S2256); SAT-LOA-19970904-00082, SAT-AMD-20040312-00033 (S2257); SAT-LOA-19970904-00083, SAT-AMD-20040312-00034 (S2258); SAT-LOA-19970904-00084, SAT-AMD-20040312-00031 (S2255).

Dear Mr. Hadinger:

On May 18, 2004, the Satellite Division, International Bureau, dismissed in part the above referenced applications, without prejudice, as defective.[1] By this letter, we reverse that decision on our own motion. We also clarify the information that Northrop Grumman Space & Mission Systems Corporation (Northrop Grumman) must submit in support of its applications. Northrop Grumman's applications, as amended, will be placed on public notice as acceptable for filing if all of the required information is properly submitted.

Northrop Grumman's applications, as amended, proposed to operate non-geostationary satellite orbit (NGSO) satellites and geostationary-orbit (GSO) satellites as part of a proposed Ka-Band/V-Band hybrid fixed-satellite service (FSS) network, referred to as the Global EHF Satellite Network (GESN).[2] Northrop

[1] Letter to Peter Hadinger Northrop Grumman Space & Mission Systems Corporation, from Thomas S. Tycz, Chief, Satellite Division, International Bureau, dated May 18, 2004 (DA 04-1387).

[2] Northrop Grumman proposed to use, on a primary or secondary basis as discussed below, the 28.6-29.1 GHz, 29.5-30.0 GHz, and 47.2-50.2 GHz bands for its HEO uplink operations, and the 18.8-19.3 GHz , 19.7-20.2 GHz, and 47.2-50.2 GHz bands for its HEO downlink operations. Northrop Grumman also proposed to use the 28.6-29.1 GHz band for the Non-GSO component on its GSO satellites for uplink operations, and the 18.8-19.3 GHz band for the Non-GSO component on those GSO satellites for downlink operations, all on a secondary basis, and the 47.2-50.2 GHz band (Gateway and User) for uplink operations and the 37.5-42 GHz band (Gateway and User) for downlink operations, both on a primary basis. Northrop also proposed to use the 28.35-28.6 GHz, 29.25-30 GHz, and 47.2 GHz bands for its GSO FSS uplink operations, and the 18.3-18.8 GHz, 19.7-20.2 GHz, and 37.5-42 GHz bands for its GSO FSS downlink operations,. The Ka-band frequencies for these GSO FSS operations are on a primary basis, and the V-band frequencies are for Gateway and user, per new FCC rule. Northrop Grumman NGSO application, SAT-AMD-20040312-00030, at 5.

Grumman's applications were dismissed in part on two grounds. First, Northrop Grumman failed to comply with Section 25.145(c)(3) of the Commission's rules. This rule requires non-geostationary satellite system applicants, such as Northrop Grumman, to "submit a casualty risk assessment if planned post-mission disposal involves atmospheric re-entry of the spacecraft."[3] Second, Section 25.140(b)(2)of the Commission's rules requires an interference analysis demonstrating that the proposed GSO FSS satellite system will be compatible with the Commission's two-degree orbital spacing environment.[4] Pursuant to a recently released Public Notice, applicants were provided guidance on the submission of the two-degree interference analysis and notified that failure to submit a two-degree analysis would render the applications incomplete.[5] Northrop Grumman failed to include an interference analysis and casualty risk assessment, thus we concluded that Northrop Grumman's applications were defective. Upon further review, we have determined that the rules at issue are subject to conflicting, but reasonable, interpretations regarding the specific information required. Thus, we clarify the information necessary to deem Northrop Grumman's applications as acceptable for filing.

Casualty Risk Assessment. The Commission has adopted requirements that satellite services in three specific bands, including NGSO Ka-band, describe orbital debris mitigation plans when applying for a license.[6] Section 25.145(c)(3) requires each non-geostationary satellite orbit Ka-band applicant to submit a casualty risk assessment if planned post mission disposal involves atmospheric re-entry of the spacecraft.[7] Upon further review, we conclude that the NGSO Ka-band service rules may not provide sufficient information for some applicants in formulating their orbital debris mitigation plans. Given this, we reconsider our dismissal of Northrop Grumman's applications for failure to comply with Section 25.145(c)(3).

We are providing, by way of Public Notice, additional information to assist applicants in preparing casualty risk assessments.[8] In that Notice we also advise applicants that their applications will be considered incomplete and therefore dismissed, if the requisite information is not submitted. Northrop Grumman must submit a casualty risk assessment consistent with the Public Notice in order for us to continue to process its applications.

Two Degree Spacing: Section 25.140(b)(2) requires applicants for space station authorizations in the fixed-satellite service to demonstrate the compatibility of their proposed systems two-degrees from "any authorized space station."[9] In instances where there are no authorized space stations, the Commission has interpreted this rule to require applicants to submit an interference analysis involving other proposed systems, or using technical data from the applicants' own systems. Indeed, historically applicants proposing systems in spectrum where there are no currently authorized space stations have submitted such analyses.[10] Nevertheless, we acknowledge that one reasonable interpretation of the rule is that if there are no authorized

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[3] 47 C.F.R. § 25.145(c)(3).
[4] 47 C.F.R. § 25.140(b)(2).
[5] *Public Notice*, International Bureau Satellite Division Information: Clarification of 47 C.F.R. § 25.140(b)(2), Space Station Application Interference Analysis, No. SPB-195, 18 FCC Rcd 25099 (2003) (*Interference Analysis Public Notice*).
[6] Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed-satellite Service in the Ka-Band, *Report and Order*, 18 FCC Rcd 14708 (2003).
[7] 47 C.F.R. § 25.145(c)(3).
[8] *Public Notice*, International Bureau, Satellite Division Information, Orbital Debris Mitigation: Clarification of 47 C.F.R. Sections 25.13(b),25.145(c)(3), 25.146(i)(4) and 25.217(d) Regarding Casualty Risk Assessment of Satellite Atmospheric Re-entry, SPB-208, DA 04-1724, June 16, 2004.
[9] 47 C.F.R. § 25.140(b)(2).
[10] *See e.g.,* TRW, Inc., Application to Launch and Operate Geostationary and Non-Geostationary Satellites in the Fixed-satellite Service, File No. 112-SAT-P/LA-97.

space stations, then no interference analysis is required. Thus, we reverse our dismissal of Northrop Grumman's applications for failure to provide an interference analysis.

To eliminate any confusion about the two-degree interference analysis required by Section 25.140(b)(2), we are issuing a Public Notice specifying that an applicant must demonstrate its proposed satellite's compatibility with currently authorized stations.[11] However, if there are no currently authorized or proposed satellites within two-degrees of the applicant's proposed station, the application must demonstrate the compatibility of its system with a proposed station at an assumed two-degree separation. In situations where there are no authorized or proposed stations within two degrees of the applicant's requested orbit location, the applicant must submit an interference analysis, with an assumed two-degree separation, using either: 1) the technical characteristics of authorized or proposed satellites located more than two-degrees away from satellites that meet U.S. two-degree compliance rules; or 2) the technical characteristics of the applicant's own satellite.[12] Thus, if any applicant for a space station authorization in the fixed-satellite service fails to submit an interference analysis, its application will be considered incomplete and therefore dismissed. Consequently, Northrop Grumman must submit an interference analysis as set forth in the Public Notice in order for us to continue to process its applications.

Based on the foregoing, we reverse our May 18, 2004 partial dismissal of Northrop Grumman Space & Mission Systems Corporation's applications for Authority to Launch and Operate a Global Satellite System Employing Geostationary and Non-Geostationary Satellites in the Fixed-satellite Service – File Nos. SAT-LOA-19970904-00080, SAT-AMD-19971222-00219, SAT-AMD-20031104-00324, SAT-AMD-20040312-00030 (S2254); and Northrop Grumman's Applications and Amendments to Applications fr Authority to Operate a Geostationary Satellite in the Fixed-satellite Service – File Nos. SAT-LOA-19970904-00081, SAT-AMD-20040312-00032 (S2256); SAT-LOA-19970904-00082, SAT-AMD-20040312-00033 (S2257); SAT-LOA-19970904-00083, SAT-AMD-20040312-00034 (S2258); and SAT-LOA-19970904-00084, SAT-AMD-20040312-00031 (S2255). Further, Northrop Grumman must submit the information requested in this letter to the Commission on or before July 19, 2004, with a courtesy copy to Jay Whaley of my staff. Failure to respond in a timely manner will result in dismissal of the applications. The reinstated applications will be placed on Public Notice as acceptable for filing if all of the requested information is properly submitted.

This action is taken pursuant to the Commission's rules on delegated authority, 47 C.F.R. § 0.261.

Sincerely,

Thomas S. Tycz

Thomas S. Tycz
Chief
Satellite Division

[11] *Public Notice*, International Bureau Satellite Division Information: Clarification of 47 C.F.R. 25.140(b)(2), Space Station Interference Analysis, SPB-207, DA 04-1708, June 16, 2004.
[12] *Id.*