



Federal Communications Commission
Washington, DC 20554

International Bureau

March 26, 2004

VIA FAX AND U.S. MAIL

William D. Wallace
Crowell & Moring LLP
1001 Pennsylvania Avenue, NW
Washington, DC 20004-2595

Re: L/Q Licensee, Inc., License Modification Application, Call Sign
S2115, FCC File No. SAT-MOD-20030606-00098

Dear Mr. Wallace:

On June 6, 2003 L/Q Licensee, Inc. ("L/Q") filed an application for modification of its Big LEO MSS satellite license. Specifically, L/Q proposed: 1) to reconfigure the operational constellation to the forty-satellite array described in application Exhibit A; 2) to include an orbital debris mitigation plan, specified in application Exhibit B; 3) to add three emission designators for downlink transmission to aviation and telemetry earth stations of the types specified in the blanket authorization announced in Public Notice, Report No. SES-000498 (May 14, 2003). The modification application, which is unopposed, was placed on public notice on August 12, 2003.¹ As explained below, we cannot assess the proposed orbital debris mitigation plan or the request for additional emission designators without further information.

In its application, L/Q proposes to move the Globalstar satellites from their operational orbit at approximately 1400 kilometers into a circular graveyard orbit at the altitude of 1514 kilometers at the end of their service life, asserting that this plan is consistent with recommendations developed in a study conducted by ITT Industries before the satellites were constructed. As noted in the *Mitigation of Orbital Debris* NPRM, guidelines developed by NASA and the Department of Defense for U.S. government space missions recommend use of disposal orbits with perigee altitudes above 2000 kilometers to minimize debris accumulation in the useful altitude range for low-earth-orbit satellites. 17 FCC Rcd 5586 (2002) at ¶53. Alternatively, the NASA/DoD guidelines call for maneuvering expired satellites into immediate atmospheric re-entry or placing them in orbits that will result in re-entry within 25 years.

Accordingly, please provide a copy of the ITT study mentioned in the application. Also, please explain in greater detail why L/Q believes that a disposal orbit of only 1514 kilometers is appropriate, addressing the following questions:

- Is it technically feasible to propel Globalstar Big LEO satellites into orbits with perigee altitudes above 2000 kilometers or ensure that they will re-enter the atmosphere within 25 years? If not, please explain why neither of these disposal arrangements is technically feasible and estimate the highest and lowest perigee(s) attainable with current fuel supplies. In answering this question please address separately satellites that are still fully functional and those that have been removed from an operational orbit due to failure of the main communications payload.
- If it is technically feasible to arrange for re-entry of currently functional Globalstar Big LEO satellites within 25 years or place them in disposal orbits with perigees above 2000 kilometers, or at some other altitude above 1514 kilometers or below 1400 kilometers, to


¹ Public Notice Report No. SAT-00159.

what extent would reservation of the fuel required to effect disposal by these means, rather than using a disposal orbit at 1514 kilometers, reduce the satellites' remaining service life?

The section of the application pertaining to the request for additional emission designators does not include the final output power specification required by 47 C.F.R. § 25.114(c)(4)(ii), the overall link performance analysis required by 47 C.F.R. § 25.114(d)(4), or the calculation of power flux density levels required by 47 C.F.R. § 25.114(d)(5). We cannot determine which frequency bands would be used for the proposed transmission to aviation transceivers, moreover, because the application does not specify channel carrier frequencies.

Please provide the information requested in this letter before COB April 12, 2004 with hand-delivered or electronic courtesy copies to William Bell (William.Bell@fcc.gov). If the information is not provided within this time period the application may be dismissed pursuant to Sections 25.112(c) and 25.152(b) of the Commission's rules.²

Sincerely,

for 
Thomas S. Tycz
Chief, Satellite Division
International Bureau

² Also see *Amendment of the Commission's Space Station Licensing Rules and Policies* (First Report and Order), FCC 03-102, 18 FCC Rcd 10760 (2003), at ¶244.