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November 26, 1996

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Federal Communications Commission
Office of Secretary

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, DC 20554

RE: ET Docket No. 96-102 EX PARTE PRESENTATION

Dear Mr. Caton:

In response to inquiries from Commission Staff, on behalf of L/Q Licensee, Inc., I am providing two copies of this letter and the attached information for inclusion in the public file for the above-referenced proceeding.

Respectfully submitted,

William D. Wallace

Enclosure

cc: Bruce Franca
Michael Marcus
Charles Iseman
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William F. Adler
Vice President and
Division Counsel

MEMORANDUM

TO: Bill Wallace

SUBJECT: Response to Questions from FCC Staff

DATE: November 26, 1996

This responds to the question you forwarded from FCC staff regarding the possibility of modifying the Globalstar system design to make the 5 GHz feeder link transmission less susceptible to interference from unlicensed NII/SUPERNet devices. It has been suggested that this might be accomplished by decreasing the satellite forward path gain by 5 dB, either by adding a 5 dB fixed attenuator and/or by using a step attenuator in the satellite transponder.

The Globalstar satellites already employ step attenuators in both the forward and return directions. At this point, the potential unlicensed users have not provided enough information to make an informed estimate of the increase in attenuation that might permit coexistence in the 5 GHz band. Nevertheless, using an additional 5 dB of attenuation in the 5 GHz forward path as an example, Globalstar would have to modify both the satellites, which are under construction, and the Gateway earth station, whose design is virtually complete.

Satellites

Globalstar received its conditional satellite construction authorization nearly two years ago. Consequently, satellite design and production have proceeded apace, consistent with Globalstar's plan to begin launching in late-Summer 1997. Alcatel Espace has already completed qualification of the satellites under the specifications and is well into flight model production. Parts have been manufactured for at least the first eight satellites. It is, therefore, extremely late to consider redesigning satellite components or subsystems.

Gateway

Any change to the satellites to achieve greater gain would require a concomitant change in the Gateway design. For 5 dB of attenuation, Globalstar would have to increase the Gateway EIRP capability by 5 dB to maintain the same Gateway performance level that is now in the design.

First, not only would this redesign add to the cost of the Gateway, it also would require physically larger equipment and would render the current pedestals, tracking mechanism and structural design inadequate. In point of fact, there is no excess, unused space designed into the antenna hub of the RF subsystem to accommodate a larger power amplifier with increased EIRP capability.

Second, to achieve an additional 5 dB of EIRP capability, the Gateway would need a larger antenna, approximately 11 to 12 meters in diameter. The antennas currently designed for operation with the Globalstar satellites are approximately 5.5 to 6.1 meters in diameter. Each antenna costs several hundred thousand dollars, and each gateway will have three or four antennas. Ordering the larger antennas would roughly double the cost per antenna and could cause a delay in the system service date of as much as 18 months to allow for redesign.

Third, the higher power required to increase the Gateway EIRP by 5 dB would cause more "off axis" interference into the satellites of ICO, Constellation or any other operator in the 5 GHz band. Thus, sharing of the band would become problematic for all users of the band. Finally, the increased level of out-of-band emissions would make coordination between MLS sites and Globalstar Gateway sites more difficult.

In conclusion, Globalstar does not believe that it is technically or economically feasible to consider design changes to the first generation satellite system to increase EIRP capability in the 5 GHz band. Globalstar is, of course, willing to discuss options for the second generation, recognizing that it is early in that process and that technology is changing rapidly.

Bill Adler