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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

In the Matter of	)	
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 Service and for Fixed Satellite Services	)	CC Docket No. 92-297
and	)	
Suite 12 Group Petition for Pioneer's Preference	)	PP-22

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COMMENTS OF LORAL AEROSPACE HOLDINGS, INC.

Loral Aerospace Holdings, Inc. (LAHI), through its attorneys, submits comments in the above-captioned proceeding. LAHI is an applicant to construct, launch, and operate CyberStar™ a satellite-based communications system in the 27.5-30.0 GHz frequency band.

Introduction

As the Commission recognized in the Notice, satellites will contribute significantly to the national and global information infrastructures by creating a wireless communications

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infrastructure that can provide low-cost, advanced, digital broadband communications services to rural and urban centers throughout the United States and the world. For instance, LAHI's proposed system will provide high-speed, digital, broadband communications services such as two-way video, teleconferencing, telemedicine, telecommuting, and computer-to-computer data services in the Ka-band to residents, businesses, schools and hospitals throughout the United States at transmission speeds exceeding 100 times those of standard telephone lines.

LAHI and other U.S. satellite manufacturers have led the world in developing and implementing satellite technology. As a result, the development of satellite systems, such as those proposed to operate in the Ka-band, will enhance communications capabilities and will help to ensure continued U.S. leadership in the information age. This proceeding represents an important opportunity for the nation to continue its leadership role in satellite communications and to stimulate economic growth in the U.S. Therefore the Commission should establish rules that promote the development and facilitate the expeditious licensing of satellite-based communications services.

I. The Band Segmentation Plan Should Allocate 1.25 GHz of Contiguous Spectrum to GSO/FSS

LAHI recognizes the spirit of compromise inherent in the proposed band segmentation plan, and believes that the plan is a good effort in reaching a compromise among various competing interests. At the same time, LAHI suggests one change -- an

allocation of 1.25 GHz of contiguous, unshared spectrum to GSO/FSS. CyberStar™ contemplates numerous broadband applications using digitized, high-speed, high-power radio signals that will provide interactive communications, video conferencing, distance learning, x-ray transmission, and computer-to-computer communications links. These services, the backbone of future cyberspace communications, are based upon the ability to exchange vast amounts of data in short time frames and should not be limited by a shortage of spectrum allocation.

While the Notice recognizes that GSO/FSS systems need 1000 MHz of spectrum to support multiple Ka-band systems and that broadband application require more bandwidth than current data operations, the proposed plan does not accommodate these two interdependent requirements. In other words, in order to provide effectively the proposed broadband applications, the GSO/FSS applicants will need contiguous, unshared spectrum. The bandwidth proposed to be allocated to GSO/FSS does not meet this criteria, therefore it reduces performance and forces the satellite systems to add complexity and cost to operate within a fragmented radio band.[1]

Economic and technical concerns support an allocation of 1.25 GHz of contiguous spectrum. With less spectrum,

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[1] In order to use all of the fragmented bandwidth allocation, the satellite communication equipment on board the spacecraft must be designed to receive, condition, and retransmit the radio signal in a different part of the spectrum. The added complexity that must be built into the satellite system can be vastly simplified by making the band allocation contiguous.

CyberStar™ will be spectrum limited in the amount of data it is able to process through its system. Many of the benefits anticipated from a "broadband" satellite system are lost when the spectrum allocation is so limited.

II. Part 25 Rules Should Be Applied to Ka-band GSO/FSS Systems

LAHI agrees with the Commission's tentative proposal to apply Part 25 of the Commission's rules to Ka-band satellite systems. The current satellite services rules have been developed, refined, and applied over many years. The effectiveness, fairness, and usefulness of these rules have been proven. Since the proposed Ka-band satellite systems are substantially similar to existing satellite systems, LAHI believes that the application of Part 25 will be most effective for the Ka-band service. In addition, by applying its existing rules to Ka-band satellite systems, the Commission should be able to license Ka-band satellite services expeditiously, thereby affording the public the benefits of broadband satellite-based communications services in the near term.

One alteration to the existing Part 25 rules, however, is needed. Ka-band satellite systems should not be required to satisfy the full frequency reuse requirement when serving common coverage areas. That is because to achieve full frequency reuse, the system must employ vertical and horizontal polarization isolations over the same ground coverage areas. However, radio waves in the Ka-band, unlike those in the C- and Ku-bands, are

strongly affected by rain, and tend to depolarize when traveling through rainstorms. When the signals depolarize, the distinction between horizontal and vertical polarization is diminished. Therefore, the full frequency reuse requirements are inappropriate for Ka-band satellite systems such as CyberStar.™

III. Competitive Bidding Should Not Be Used to Allocate Satellite Spectrum

As the Commission recognizes, the Omnibus Budget Reconciliation Act limits the use of auctions to situations of mutual exclusivity. The Ka-band satellite applications presently on file are not mutually exclusive. Even if additional applications are filed on or before the cut-off, there is little likelihood that these applications will create mutual exclusivity that cannot be readily resolved among the applicants. Therefore, unless circumstances significantly change, the Commission would not be authorized to use auctions to allocate Ka-band satellite licenses.

In authorizing auctions, Congress explicitly required the FCC to continue its practice of using "engineering solutions, negotiation, threshold qualifications, service regulations and other means to avoid mutual exclusivity."[2] Therefore, if Ka-band satellite applications become mutually exclusive, the Commission should seek to resolve the mutual exclusivity through negotiation or engineering solutions between the parties. Aside from the

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[2] 47 U.S.C. § 309(j)(6)(E).

fundamental absence of mutual exclusivity, and the Act's preference for avoiding mutual exclusivity where possible, there are other reasons why competitive bidding should not be used to allocate spectrum in this case.

A decision to allocate Ka-band satellite spectrum through competitive bidding could set in motion undesirable and ultimately uncontrollable reactions in other countries. Several of the proposed Ka-band satellite systems plan to offer global services. They will have to obtain licenses to use spectrum in every country in which they provide service. A decision by the Commission to extract an upfront payment from satellite service providers for the use of spectrum in the United States will invite foreign sovereigns to impose similar requirements. This could create a chain reaction so substantial as to cause the market for such services to fail.

There is a natural temptation in cooperative network industries to free ride, i.e. for individual producers or classes of consumers to pass the costs to someone else. In the instant case, the natural tendency is for independent jurisdictions to attempt to appropriate the benefits of a global service, while transferring the costs to other jurisdictions. In other words, if all foreign sovereigns seek to exact payment for the use of spectrum, the cumulative effect may be higher costs than the system could reasonably bear -- all as a consequence of individual decisions taken with the hope that other jurisdictions will not also extract high costs. When numerous jurisdictions

extract benefits and thus increase costs (e.g., auction proceeds) with the implicit assumption that other jurisdictions collectively will bear the costs, there is a significant risk that the total costs will be raised to an unsustainable amount.

Concerns about excessive charges by individual jurisdictions do not require an assumption that a decision to secure disproportionate payments is conscious. It is inherently difficult to calculate the price that independent jurisdictions may reasonably extract from a global system for the use of spectrum. Any calculations will necessarily incorporate assumptions about how other jurisdictions will act and the charges they will impose. If those assumptions are inflated, which is entirely possible given that they are made in isolation, the costs of putting an international satellite system into operation may become so excessive as to preclude the project entirely.

In sum, it is very likely that a decision by the Commission to auction Ka-band satellite spectrum will prompt other jurisdictions to follow the U.S. lead. These other sovereigns, acting in isolation, easily could require unreasonable payments for the use of their satellite spectrum. If so, the costs of establishing a satellite service will increase significantly, perhaps to the level that the service becomes uneconomical to provide. Therefore, the international ramifications plainly advise against a decision to auction satellite spectrum in the U.S.

Conclusion

The Commission should allocate 1250 MHz of contiguous spectrum to Ka-band satellite systems. This allocation will ensure that all of the potential broadband communications services become available to the American public. In addition, in order to maintain the United States's leadership position in the development and provision of satellite-based communications services, the Commission should issue licenses expeditiously and apply its existing Part 25 rules to Ka-band satellite systems. If mutual exclusivity exists, the Commission should use negotiation and engineering solutions to resolve the situation. A decision to allocate spectrum through auction will set an undesirable and costly precedent worldwide and should be avoided.

Respectfully submitted,

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September 7, 1995