

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

In the Matter of)	
)	
FWCC Request for Declaratory Ruling on)	
Partial-Band Licensing of Earth)	IB Docket No. 00-203
Stations in the Fixed-Satellite Service)	RM-9649
That Share Terrestrial Spectrum)	
)	
FWCC Petition for Rulemaking to Set)	
Loading Standards for Earth Stations)	
In the Fixed-Satellite Service that)	
Share Terrestrial Spectrum)	
)	
Onsat Petition for Declaratory Order that Blanket)	
Licensing Pursuant to Rule 25.115(c) Is Available for)	SAT-PDR-19990910-00091
Very Small Aperture Terminal Satellite Network)	
Operations at C-Band)	
)	
Onsat Petition for Waiver of Rule 25.212(d) to the)	
Extent Necessary to Permit Routine Licensing of 3.7)	
Meter Transmit and Receive Stations at C-Band)	
)	
<i>Ex parte</i> Letter Concerning Deployment of)	
Geostationary Orbit FSS Earth Stations in the Shared)	
Portion of the Ka-band)	
)	

COMMENTS OF ASTROLINK INTERNATIONAL LLC

ASTROLINK International LLC

Raymond G. Bender, Jr.
Carlos M. Nalda
DOW, LOHNES & ALBERTSON, PLLC
1200 New Hampshire Avenue, NW
Suite 800
Washington, DC 20036
Its Attorneys

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Summary

ASTROLINK International LLC (“Astrolink”), a first-round Ka-band GSO FSS licensee, strongly opposes the drastic changes in the Commission’s rules and policies governing fixed-satellite service (“FSS”) earth station licensing and coordination under consideration in this proceeding. Astrolink joins the Comments of the Satellite Industry Association, the Satellite Broadcasting and Communications Association, the World Teleport Association, and the Aeronautical Industries Association of America (collectively, the “Satellite Industry Coalition”) in opposing these proposals, and submits these separate Comments to emphasize certain issues of particular concern to Astrolink.

The rule changes proposed in this proceeding would impair, rather than promote, the efficient use of spectrum by replacing the Commission’s longstanding earth station licensing and coordination regime with a framework of rigid regulatory requirements that would unnecessarily burden earth station operators and eliminate the operational flexibility vital to the provision of satellite communications services. The sole justification for these proposals is that satellite earth stations and terrestrial fixed service (“FS”) stations are regulated differently. However, these regulatory distinctions merely reflect the substantial differences in network architecture and services provided by FSS and FS operators. Indeed, the discrete rules and policies developed by the Commission have enabled both satellite and terrestrial services to flourish in the context of their unique technical and operational environments.

With respect to the specific issues under consideration, the Commission should reject the “demonstrated use” proposal because: (i) it is not possible to develop a uniform definition of use given the many factors relevant to spectrum requirements for various

earth station services; (ii) such an approach would unreasonably burden earth station operators by requiring them to track usage on a frequency-specific basis and disclose sensitive business information to third parties; (iii) use determinations should not be made by frequency coordinators, who lack the authority and expertise to interpret Commission rules and policies; and (iv) the proposal would limit the flexibility needed to efficiently provide satellite communications services. Moreover, the demonstrated use proposal is meaningless in the context of next-generation broadband satellite systems because FSS earth stations associated with these systems at all times will receive wideband downlink transmissions across the entire FSS band available for these systems.

In addition, the Commission seeks comment on issues relating to spectrum efficiency standards for FSS earth stations. Again, the sole justification for this proposal is that terrestrial FS stations are subject to such standards. However, the fundamental physical and practical differences between satellite and terrestrial systems preclude the application of such efficiency standards to FSS earth station operations. In addition, the economic realities associated with the provision of satellite services provides the strongest of all possible motivations for satellite operators to be as spectrally efficient as practicable in the provision of these services. Further, the Commission's rules already apply efficiency standards to FSS systems (*e.g.*, two degree spacing, full frequency re-use, etc.). Astrolink strongly opposes any effort to develop additional efficiency standards for earth stations because any such requirements are unworkable, inappropriate and unnecessary in the context of current and future FSS satellite services.

The Commission also should decline to adopt any changes to its rules governing FSS/FS coordination. The proposal to require application of a previously used

coordination model in all future coordinations does not recognize that technical factors can vary widely from coordination to coordination, fails to account appropriately for changes in the interference environment, and fails to consider that coordination models are refined over time. In addition, the proposal to deprive an earth station operator of any future protection if it agrees in a single instance to accept interference that would prevent the operator from achieving accepted interference objectives provides no definition of the term “accepted interference objectives,” fails to recognize that interference objectives may vary for any given earth station or as a function of the service provided, and does not account for changes in the interference environment such as modification or cessation of the initial FS transmissions. As with the demonstrated use concept, the proposed coordination changes are neither viable nor appropriate in the context of next-generation satellite systems operating in Ka-band and higher frequency bands.

TABLE OF CONTENTS

	Page
I. THE COMMISSION’S EXISTING EARTH STATION LICENSING AND COORDINATION PROCEDURES REFLECT THE UNIQUE CHARACTERISTICS AND NEEDS OF CURRENT AND FUTURE SATELLITE SERVICES.....	2
A. The Unique Architectural and Operational Characteristics of FSS and FS Systems Fully Justify the Distinct Regulation of these Services.....	3
B. The Proposals Under Consideration Could Undermine the Viability of New Broadband Satellite Systems Operating in Ka-band and Higher Frequencies.....	4
II. THE PROPOSED DEMONSTRATED USE REQUIREMENT IS INAPPROPRIATE IN THE CONTEXT OF EXISTING AND FUTURE FSS SERVICES.....	6
A. Requiring FSS Earth Station Operators to Demonstrate Spectrum Use Would Be Overly Burdensome and Would Not Serve the Public Interest	6
B. The Concept of Demonstrated Use is Inapplicable in the Context of Advanced Broadband Satellite Services.....	8
III. THE COMMISSION SHOULD NOT ADOPT AN EFFICIENCY STANDARD FOR FSS EARTH STATIONS	10
IV. THE COMMISSION SHOULD NOT ALTER ITS FSS/FS COORDINATION RULES.....	13
A. The Commission Should Not Impose Interference Model Requirements	13
B. The Commission Should Not Deny Future Protection to an Earth Station Operator that Has Agreed to Accept Limited Interference in the Context of a Previous Coordination	14
V. CONCLUSION	16

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COMMENTS OF ASTROLINK INTERNATIONAL LLC

ASTROLINK International LLC (“Astrolink”), by its attorneys, hereby submits its comments in the above-referenced proceeding.¹ Astrolink is the licensee of the Astrolink System, a next-generation Ka-band satellite system that will provide advanced broadband communications services to consumers in the United States and around the

¹ FWCC Request for Declaratory Ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service That Share Terrestrial Spectrum, File Nos. IB Docket No. 00-203, RM-9649 and SAT-PDR-19990910-00091, *Notice of Proposed Rulemaking*, FCC 00-369 (rel. Oct. 24, 2000) (“*NPRM*”).

world. Astrolink joins the Comments of the Satellite Industry Association, the Satellite Broadcasting and Communications Association, the World Teleport Association, and the Aeronautical Industries Association of America (collectively, the “Satellite Industry Coalition”), and submits these separate Comments to emphasize certain issues of particular concern.

I. THE COMMISSION’S EXISTING EARTH STATION LICENSING AND COORDINATION PROCEDURES REFLECT THE UNIQUE CHARACTERISTICS AND NEEDS OF CURRENT AND FUTURE SATELLITE SERVICES

The Commission’s current licensing and coordination rules require FSS earth stations to use spectrum efficiently and, at the same time, preserve the operational flexibility necessary to ensure continued efficient operation of satellite systems. Indeed, the record before the Commission overwhelmingly demonstrates that satellite operations are extremely efficient and require flexibility to optimize use of system capabilities. In contrast, the record is devoid of evidence establishing that terrestrial operators are disadvantaged by the Commission’s current approach to FSS earth station regulation. On the contrary, terrestrial operators have benefited disproportionately from Commission licensing policies, which are based on a first-come, first-served framework, because building out terrestrial networks is easier and faster than implementing new satellite systems. Thus, there is simply no reason to alter the Commission’s rules in a manner that would severely disadvantage existing and future satellite operations.

A. The Unique Architectural and Operational Characteristics of FSS and FS Systems Fully Justify the Distinct Regulation of these Services

The Commission has recognized that there are substantial architectural and operational differences between satellite and terrestrial services.² The FS involves point-to-point and multipoint facilities that are authorized to communicate on discrete paths at specific frequencies. In contrast, current FSS earth stations may not use the same frequencies at the same azimuths and elevation angles at all times. Rather, C- and Ku-band earth stations often change their orientations and frequencies to transmit to or receive transmissions from various satellites and satellite transponders.³

Because of these differences, the Commission has imposed distinct technical and operational requirements to ensure that each type of system uses spectrum efficiently. For example, Part 101 outlines certain payload and loading requirements for terrestrial FS systems, whereas Part 25 specifies requirements for geostationary satellite orbit (“GSO”) FSS space stations to provide services in the United States.⁴ These distinct regulatory regimes are tailored to address the unique characteristics and requirements of each service, and have enabled both satellite and terrestrial services to flourish in spectrum shared on a co-primary basis and in frequencies used on a sole primary basis.

However, in the *NPRM*, the Commission proposed to radically alter these well-settled rules by imposing burdensome new requirements on satellite earth stations. Specifically, the Commission proposed to require an earth station operator to demonstrate past, present or imminent use of frequencies for which it has denied coordination because

² *NPRM*, ¶ 38.

³ *Id.*

⁴ *Id.*, ¶ 38 and n. 71 (describing technical requirements applicable to GSO FSS space stations).

of unacceptable interference from proposed FS operations, and to modify its FSS/FS coordination procedures to limit the flexibility of earth station operators in subsequent coordinations.

The Commission believes that these proposals “will ensure that spectrum in bands shared by the FSS and FS is being used efficiently and will help alleviate congestion concerns when coordinated spectrum is not being used by FSS earth stations,” and has tentatively concluded “that these proposals are the most effective and targeted means of addressing the concerns of the FS community regarding access to spectrum at the time of coordination, without imposing unnecessary regulatory constraints on either service.”⁵ As discussed more fully herein, however, Astrolink believes that the Commission’s proposals are unsupported and unnecessarily burden FSS earth station operations.

B. The Proposals Under Consideration Could Undermine the Viability of New Broadband Satellite Systems Operating in Ka-band and Higher Frequencies

The drastic changes currently under consideration by the Commission could substantially undermine the viability of next-generation Ka-band and other satellite systems. In early 1997, the Astrolink System and nearly a dozen other Ka-band FSS systems were licensed to provide advanced broadband communications services, including voice, data, video, facsimile, videoconferencing, Internet access, distance learning, telemedicine and other services. In addition to the public benefits derived from these new services, the Commission has recognized that “[t]he commercialization of the Ka-band spectrum will give rise to a dynamic new satellite market, potentially

⁵ *Id.*, ¶ 44.

stimulating significant economic growth both in the United States and abroad.”⁶ These new systems also represent “an opportunity for the United States to continue its leadership role in promoting global development through enhanced communication infrastructures and services,” and “a major step in achieving a seamless information infrastructure.”⁷

In order to participate in the emerging market for broadband satellite services and to compete effectively in the rapidly evolving telecommunications marketplace, however, Astrolink and other new broadband satellite systems require operational flexibility and regulatory certainty regarding the use of available FSS spectrum. In this connection, fully one-half of all Ka-band GSO FSS downlink spectrum, 500 megahertz in the 18.3-18.8 GHz band, is shared with the FS on a co-primary basis.⁸ It is manifestly contrary to the public interest for the Commission to alter its earth station licensing and coordination rules in shared FSS/FS spectrum in a manner that would significantly handicap nascent Ka-band satellite systems, particularly when no public interest benefit would result from

⁶ See 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 Service, *Third Report and Order*, 12 FCC Rcd 22310 (1997) at ¶2.

⁷ *Id.*

⁸ The Commission designated the 18.3-18.58 GHz band to FS and GSO FSS on a co-primary basis; and designated the 18.58-18.8 GHz band to GSO FSS on a sole primary basis, but grandfathered existing fixed service operations in that band for ten years. See 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*, 2000 FCC LEXIS 3200 (rel. June 22, 2000). Thus, terrestrial operators will have access to shared Ka-band spectrum for many years before GSO FSS systems even begin to deploy their systems.

such action. Moreover, as discussed below, the changes under consideration by the Commission are inapplicable in the context of broadband satellite earth station operations. Therefore, the Commission should decline to apply any changes in its earth station rules to satellite systems operating at Ka-band and higher frequencies.

II. THE PROPOSED DEMONSTRATED USE REQUIREMENT IS INAPPROPRIATE IN THE CONTEXT OF EXISTING AND FUTURE FSS SERVICES

In the *NPRM*, the Commission proposed to require an earth station operator to justify failure to coordinate a proposed terrestrial link by demonstrating past, present or imminent future use of the frequencies in question. This proposal would be extremely complex and burdensome, would require private sector frequency coordinators to make determinations for which they are ill-suited, would unreasonably constrain the provision of FSS services, and is meaningless in the context of broadband satellite services.

Therefore, the Commission should refuse to require earth station operators to demonstrate spectrum use as proposed in the *NPRM*.

A. Requiring FSS Earth Station Operators to Demonstrate Spectrum Use Would Be Overly Burdensome and Would Not Serve the Public Interest

As the Comments of the Satellite Industry Coalition demonstrate, evaluating the use of spectrum by FSS earth stations is an extraordinarily complex task involving consideration of numerous factors, such as the need for frequency diversity, redundancy, intermittent access, minimum transponder usage, future use, contingency planning, space segment assignment and equipment failure.⁹ Given this wide range of factors, making a

⁹ See Comments of the Satellite Industry Coalition at 24-28; see also *id.* at n.28 (citing Reply Comments of FWCC at 12-13 (arguing that the need for bandwidth, when not currently used, can be legitimately demonstrated in numerous ways)).

demonstrated use showing would be an extremely fact-intensive and time-consuming process, and thus would impose significant new burdens on earth station operators, frequency coordinators and the Commission staff.¹⁰ Furthermore, it is unclear how any decisionmaker could weigh and balance these various factors, particularly since many of these factors are unpredictable and their importance in any given instance may vary among earth stations, operators and different FSS service offerings. Thus, Astrolink submits that the administrative burdens associated with the demonstrated use proposal far outweigh any potential benefits to be derived from such a requirement.

The Commission's proposal also raises a number of other administrative concerns. For example, the demonstrated use proposal contemplates that determinations will be made, in the first instance, by a private sector frequency coordinator. However, the frequency coordinator making the use determination may be the same frequency coordinator retained by a terrestrial operator to coordinate the relevant FS link. Such an approach creates a significant conflict of interest and is therefore unacceptable. Even if the conflict could be eliminated, it is inappropriate to have private sector frequency coordinators, rather than qualified and unbiased government decisionmakers, making demonstrated use determinations. As a result, any determinations of non-use of spectrum by an earth station would likely be appealed to the Commission for review, severely straining the Commission's limited resources.

¹⁰ An earth station operator would be required to fully document past, present and potential future use of spectrum at all times in order to protect their access to licensed spectrum. In the event of a failure to coordinate a proposed FS link, the earth station operator would be required to develop a comprehensive demonstration of use for evaluation by a frequency coordinator and possibly the FCC staff. These new requirements and procedures would be extremely costly and consume a substantial amount of time and effort of all parties involved.

This difficult situation is compounded by the fact that the Commission's demonstrated use proposal contemplates the submission of sensitive business information to the frequency coordinator for review. No requirements or procedures for the treatment of confidential information submitted to frequency coordinators have been proposed, it is unclear whether earth station operators would submit such information to a frequency coordinator that routinely represents a number of other satellite and terrestrial operators, and it is far from certain that a frequency coordinator would be willing or able to accept the responsibility and liability associated with handling such confidential information. In sum, private sector frequency coordinators are simply not well-suited for the role in the proposed demonstrated use process envisioned for them in the *NPRM*.

Finally, even if these and other administrative and procedural difficulties could be resolved, the proposed demonstrated use requirement should be rejected because it would unfairly constrain the flexibility of satellite operations. The impact of the proposal would be to reduce the amount spectrum available to an earth station operator, thereby undermining its ability to respond to changes in customer demand, outages and other circumstances. Given the importance of operational flexibility to FSS earth station operations and the lack of evidence that existing policies disadvantage terrestrial operators, the Commission should not adopt the proposed demonstrated use requirement.

B. The Concept of Demonstrated Use is Inapplicable in the Context of Advanced Broadband Satellite Services

The Commission's demonstrated use proposal apparently is intended to permit terrestrial operators to access shared FSS/FS spectrum that has not been, is not and will not be "used" by satellite earth stations. For the reasons set forth in the preceding section, a demonstrated use requirement should not be applied to FSS earth station

operations, including next-generation satellite systems operating at Ka-band and higher frequencies. In addition, Ka-band FSS systems will employ a variety of advanced satellite communications technologies that make application of a demonstrated use requirement impracticable.

For example, the Astrolink System will utilize packet communications techniques and wideband 250 MHz channels to communicate with its earth stations in the 18.3-18.8 GHz band, spectrum shared with the terrestrial fixed service.¹¹ Each earth station within a given downlink beam will receive the same 250 MHz wideband downlink signal, and will retrieve the data packets specifically addressed to it.¹² As a result, this entire wideband signal is always in use by Astrolink earth stations.

Recognizing the foregoing, Astrolink initially plans to operate “dual-capacity” downlink beams that will use the full 500 MHz (*i.e.*, two 250 MHz channels) of spectrum in the 18.3-18.8 GHz band. Earth stations operating in these beams will utilize all of the spectrum that is shared with the terrestrial fixed service. Under these circumstances, and any other circumstances where a Ka-band earth stations plan to use their entire authorized bandwidth, the concept of demonstrating use to identify spectrum they may be available for FS use is simply inapplicable.

In addition, Astrolink plans to co-locate two satellites at a number of orbit locations to maximize system capacity. In these circumstances, one satellite will use the upper 250 MHz in the 18.3-18.8 GHz band, while the other will use the lower 250 MHz

¹¹ *But see* note 8, *supra*.

¹² This packet-data approach is distinct from the typical FDM access architecture used at lower frequency bands, where a single earth station can receive various specified, narrower bandwidth signals.

in the same geographic area. Earth stations within the geographic area covered by the co-located satellites will be capable of receiving data from either satellite across the full 500 MHz of spectrum. Thus, it is planned that the entire 18.3-18.8 GHz band will be used by Astrolink earth stations at all times in a given geographic area.

Finally, in order to compensate for greater rain attenuation in Ka-band frequencies, the Astrolink System will employ earth station site diversity for certain applications requiring the highest possible availability/reliability. In these cases, a primary gateway earth station and a diverse second gateway will be deployed at a certain minimum separation distance, with both earth stations simultaneously receiving the same satellite downlink signal.¹³ When heavy rain occurs, the earth station site with the most reliable signal will be used. Therefore, although only one of the two earth stations will be in use at any given time, the spectrum used by each earth station must be fully protected from interference from terrestrial operations at all times.

III. THE COMMISSION SHOULD NOT ADOPT AN EFFICIENCY STANDARD FOR FSS EARTH STATIONS

As the Commission noted in the *NPRM*, terrestrial stations are subject to certain efficiency standards (*e.g.*, payload and loading requirements), while satellite systems are subject to different types of regulation to facilitate the efficient use of spectrum.¹⁴ These regulatory distinctions are the result of architectural and operational differences between terrestrial and satellite services.¹⁵ Although the Commission did not propose to adopt a

¹³ “Gateway” earth stations will be used to connect Astrolink’s end users with terrestrial telecommunications networks.

¹⁴ See *NPRM*, ¶¶ 38-39.

¹⁵ *Id.*, ¶ 38.

specific spectrum efficiency standard for FSS earth stations in the *NPRM*, it sought comment on whether the Commission should establish such a standard.¹⁶

Astrolink strongly opposes any effort to develop a spectrum efficiency standard for FSS earth stations because it is entirely unnecessary and inappropriate to apply such requirements to satellite operations. The Commission's rules already require satellite systems to use spectrum extremely efficiently. For example, the Commission's long-standing two-degree spacing requirement for GSO FSS systems maximizes the efficient use of the spectrum and orbit resource.¹⁷ Furthermore, in order to maximize the capacity of space stations at a given orbit location, FSS licensees are required to implement full frequency re-use.¹⁸ The Commission's rules also specify stringent earth station antenna sidelobe suppression requirements.¹⁹ Thus, the Commission's rules governing satellite services ensure that satellite systems use spectrum efficiently.

Moreover, the efficiency standards applicable to terrestrial systems (*e.g.*, payload capacity and loading requirements) are inappropriate in the context of satellite earth station operations. While it may be suitable to apply minimum efficiency standards to terrestrial FS stations given the nature of the service and because the deployment of an FS link may preclude the deployment of another FS link along the same path on the same frequency, this is not the case with satellite earth stations. The Commission's two-degree

¹⁶ *Id.*, ¶ 59.

¹⁷ Two-degree spacing allows the simultaneous operation of 40 GSO FSS systems from about 60°W to 140°W, each capable of providing co-frequency, co-coverage service to the United States.

¹⁸ 47 C.F.R. §§ 25.210(d), (e), (f) & (g).

¹⁹ 47 C.F.R. § 25.209. These requirements not only promote efficient use of the spectrum, but also facilitate sharing with terrestrial services by narrowing earth station antenna beamwidths and increasing off-axis side lobe suppression.

spacing policy and other rules generally ensure that earth stations may operate anywhere, regardless of the proximity of other earth stations operating on the same frequencies.

Furthermore, satellite systems also satisfy the communications requirements of large and small customers alike in all regions of the country. However, the application of an arbitrary efficiency standard that would impose minimum capacity or loading requirements would substantially undermine the ability of satellite service providers to meet the needs of smaller, occasional-use customers, such as those in rural and underserved areas that cannot be served economically by other types of systems, including FS systems. In many cases, earth station use is driven by the requirements of such individual customers and is beyond the control of an earth station operator or FSS service provider. In these circumstances, it is entirely unreasonable to impose spectrum efficiency standards to eliminate some of the greatest strengths of FSS systems: the ability to serve all regions of the country uniformly and to satisfy the needs of smaller customers in a cost-effective manner.

In sum, there is no evidence that additional efficiency standards are needed to ensure the efficient operation of satellite systems. The existing satellite regulatory regime, and the need to operate satellite systems to obtain the greatest capacity practicable over available bandwidth to recover the enormous costs of system deployment and operation, provide more than sufficient incentive for FSS service providers to operate their systems in the most efficient manner possible. Accordingly, Astrolink strongly opposes the development and imposition of a spectrum efficiency standard for FSS earth stations.

IV. THE COMMISSION SHOULD NOT ALTER ITS FSS/FS COORDINATION RULES

The Commission's existing FSS/FS coordination procedures recognize that every coordination is unique and allow the parties involved to evaluate the business, technical and other issues that are relevant to the coordination. This regime has worked well for many years and there is nothing in the record that warrants a change to these procedures. In the *NPRM*, however, the Commission proposed to abandon much of its proven coordination approach and replace it with rigid new rules that would burden both satellite and terrestrial operators without evidence that any party will be better off. Therefore, Astrolink urges the Commission to reject the proposed changes to its inter-service coordination rules.

A. The Commission Should Not Impose Interference Model Requirements

The Commission proposes to require an earth station operator that accepts a coordination model reflecting certain interference mitigation techniques in coordinating its station to later accept the same model for subsequent coordinations.²⁰ There appears to be no basis in the record for imposing such requirement. Accordingly, the Commission should continue to rely on the parties involved to employ sound engineering principles and apply those principles consistently in individual coordinations.

As the Commission recognized in the *NPRM*, “[e]very coordination request is likely to differ from earlier requests in some respects.”²¹ Thus, the potential for harmful interference will depend on a wide range of factors that may vary from case to case, even

²⁰ *NPRM*, ¶ 78.

²¹ *Id.*, ¶ 73.

when the same two facilities are involved. When different parties and facilities are involved, the probability that a coordination will involve different factors is much greater. Even small changes in distance or direction between the facilities in the initial coordination and the subsequent coordination can create a significant change in the impact of any terrain blockage. In fact, because terrain blockage analyses are path-specific, an analysis done for one coordination may provide no useful information for a subsequent coordination if the sites involved are not identical.

In sum, because there is extreme variation in analytical factors from one coordination to another, the coordination model requirement proposed in the *NPRM* cannot be expected to benefit satellite or terrestrial operators in any material way. Instead, adopting this limitation will simply impose an unnecessary constraints on coordination. Thus, Astrolink believes the proposed rule change should be rejected.

B. The Commission Should Not Deny Future Protection to an Earth Station Operator that Has Agreed to Accept Limited Interference in the Context of a Previous Coordination

In the *NPRM*, the Commission also proposed a change to its FSS/FS coordination rules that would deprive an earth station operator that accepts interference that “is recognized to be below accepted interference objectives” along a set of azimuths and elevation angles of any future protection for the same frequencies along the same azimuths and elevation angles.²² In explaining its rationale of this proposed rule, the Commission stated that “it would not seem reasonable to allow an FSS earth station licensee to preclude future FS station use of a part of the spectrum in which the earth station licensee has already accepted levels of interference from other FS stations that

²² *Id.*, ¶ 78.

would preclude its use of that particular part of the spectrum.”²³ However, examination of the proposed rule reveals that it does not serve its intended purpose and is unworkable in practice.

For example, the proposed rule assumes that there is common understanding of the term “accepted interference objectives” in the context of FSS/FS coordination. This is simply not the case. The amount of interference that may be accepted on a given frequency without making that frequency unusable will vary from situation to situation, depending on a wide range of factors including the FSS services being offered and a variety of technical parameters. Indeed, interference from a terrestrial station may preclude certain high availability FSS services, but may still allow the provision of lower-cost, lower-availability services on the affected frequencies. Further, simply accepting interference below an accepted interference objective would not necessarily render the frequency unusable. The term “accepted interference objectives” has no connection to an interference level that would leave a given frequency unusable, but instead seems to refer to a generally accepted coordination trigger. As such, the term is extremely misleading in this context.

Moreover, the rule fails to account for the additive nature of interference and the possibility of changes in the original interference. Under circumstances where an earth station accepts a level of interference from an FS station that equals its total available interference budget, subsequent additional interference from another FS station would not be acceptable and might interrupt the provision of service to that earth station.

Additionally, if the initial FS transmissions ceased or were modified in a manner that

²³ *Id.*, ¶ 76.

permitted the provision of FSS services, the rule would appear to permit subsequent FS stations on the same frequencies and along the same azimuth and elevation angle to cause unlimited interference to the earth station, thereby disrupting the provision of service.

Because there is no agreed upon definition of the term “accepted interference objectives” and there are a number of other practical problems associated with implementing the proposed coordination rule, Astrolink urges the Commission to reject this proposal.

V. CONCLUSION

For the foregoing reasons, Astrolink requests that the Commission take action on the issues raised in this proceeding in a manner consistent with these Comments.

Respectfully submitted,

ASTROLINK International LLC

By:

Raymond G. Bender, Jr.
Carlos M. Nalda
DOW, LOHNES & ALBERTSON, PLLC
1200 New Hampshire Avenue, NW
Suite 800
Washington, DC 20036
Its Attorneys

January 8, 2001