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

In the Matter of:	)	
International Bureau Seeks Comment On Proposals to Permit Reducing Orbital Spacings Between U.S. Direct Broadcast Satellites	)	Report No. SPB-196
Petition of DIRECTV Enterprises, LLC For a Rulemaking on the Feasibility Of Reduced Orbital Spacing in the U.S. Direct Broadcast Satellite Services	)	RM No. 10804
Petition of SES AMERICOM, Inc. For a Declaratory Ruling To Serve the U.S. Market Using BSS Spectrum from the 105.5° W.L. Orbital Location	)	SAT-PDR-20020425-00071
Applications of EchoStar Satellite Corporation for Authority to Construct, Launch, and Operate Direct Broadcast Satellites in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 123.5°, 96.5°, and 86.5° W.L. Orbital Locations	)	SAT-LOA-20030606-00107 SAT-LOA-20030605-00109 SAT-LOA-20030609-00113

COMMENTS OF SES AMERICOM, INC.

Scott Tollefsen
Nancy J. Eskenazi
Office of General Counsel
SES AMERICOM, Inc.
4 Research Way
Princeton, NJ 08540

Phillip L. Spector
Diane C. Gaylor
Paul, Weiss, Rifkind, Wharton
& Garrison LLP
1615 L Street, NW, Suite 1300
Washington, DC 20036

Attorneys for SES AMERICOM, Inc.

January 23, 2004

SUMMARY

In April 2002, SES AMERICOM proposed to provide satellite capacity for DBS service to U.S. customers from a new satellite located four and one-half degrees away from existing U.S. DBS satellites. Since then, EchoStar and others have made similar proposals. In response to these proposals, DIRECTV filed a Petition for Rulemaking with the Commission, requesting the Commission to adopt rules regulating the spacing and operational parameters of DBS satellites serving the United States. DIRECTV argues that a rulemaking is needed if there is to be any change to the Commission's longstanding nine-degree spacing "policy."

DIRECTV ignores the fact that the DBS frequency bands at issue are internationally-planned bands. The ITU, with full U.S. participation, developed and implemented a detailed regulatory framework governing these bands, giving all Administrations rights and obligations with respect to their worldwide use. The Commission has fully incorporated these international rules and procedures into its own rules for the DBS service, and has consistently followed these rules in licensing U.S. DBS satellites.

Within this ITU and Commission framework, there is no nine-degree "policy." While each Administration is assigned BSS channels at specific orbital locations, the ITU rules contain procedures for modifying these "Plan" assignments, and for entering new assignments into the Plans, including at reduced orbital spacing. These procedures provide a mechanism for triggering coordination with potentially-affected systems, and a process for carrying out required coordinations. Some of the proposed

new satellites, including SES AMERICOM's, are already the subject of international coordinations in which the Commission is participating.

The ITU criteria and coordination procedures for DBS systems – already incorporated in the Commission Rules – should continue to be used to address the technical feasibility of, and to implement, reduced spacing. The Commission has held that these procedures ensure adequate protection of existing systems, while permitting new entry.

From the technical perspective, reduced orbital spacing is feasible in many circumstances. In coordination, a variety of techniques can be used to permit operation of the new satellite while providing adequate protection to existing systems. Importantly, however, the Commission and ITU rules and procedures treat such issues on a case-by-case basis, and specify inter-system coordination to resolve technical issues. The situation at each orbital location is somewhat different, and these differences should be taken into account. For this reason, satellite parameters and protection criteria should not be prescribed in the Commission rules. This would constrain coordination, and preclude creative solutions that could lead to more efficient use of the spectrum.

Therefore, SES AMERICOM urges the Commission not to commence an unnecessary rulemaking, as proposed by DIRECTV. Put simply, no rule changes are needed either to accommodate new DBS systems or protect existing ones. As is currently the case, the Commission should employ the rules and procedures already laid down by the ITU for the subject frequency bands.

TABLE OF CONTENTS

Page

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

In the Matter of:	
International Bureau Seeks Comment On Proposals to Permit Reducing Orbital Spacings Between U.S. Direct Broadcast Satellites	Report No. SPB-196
Petition of DIRECTV Enterprises, LLC For a Rulemaking on the Feasibility Of Reduced Orbital Spacing in the U.S. Direct Broadcast Satellite Services	RM No. 10804
Petition of SES AMERICOM, Inc. For a Declaratory Ruling To Serve the U.S. Market Using BSS Spectrum from the 105.5° W.L. Orbital Location	SAT-PDR-20020425-00071
Applications of EchoStar Satellite Corporation for Authority to Construct, Launch, and Operate Direct Broadcast Satellites in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 123.5°, 96.5°, and 86.5° W.L. Orbital Locations	SAT-LOA-20030606-00107 SAT-LOA-20030605-00109 SAT-LOA-20030609-00113

COMMENTS OF SES AMERICOM, INC.

SES AMERICOM, Inc. ("SES AMERICOM "), by its attorneys, hereby submits these comments in response to the Commission's Public Notice (the "Public Notice") seeking comment on proposals to permit reduced orbital spacings between U.S. direct broadcast satellite service ("DBS") satellites.[1] The Public Notice states that several

[1] *See Public Notice*, Report No. SPB-196, December 16, 2003 (the "*Public Notice*").

parties have asked the Commission to consider various proposals to allow DBS operators to provide service in the United States from orbital locations at less than the nine-degree spacing of currently-operating U.S. DBS satellites, and the International Bureau seeks comment on the technical feasibility of these proposals.[2]

I. INTRODUCTION

The first of the proposals cited by the Commission is SES AMERICOM's own petition, filed April 25, 2002 (the "SES AMERICOM Petition"), requesting a declaratory ruling that it is in the public interest for SES AMERICOM to offer satellite capacity to third parties that will provide direct-to-home services to consumers in the United States and certain British Overseas Territories in the Caribbean.[3] SES AMERICOM will offer this capacity on a satellite licensed by the Government of Gibraltar at 105.5° West Longitude ("W.L."), pursuant to an International Telecommunication Union ("ITU") filing for a satellite at that location made by the

---

[2] *Id.* at 1, 3. These proposals all involve satellites using the 12.2-12.7 GHz downlink frequencies and 17.3-17.8 GHz feeder link frequencies, which have been allocated and are currently used in International Telecommunication Union Region 2 (including the United States) for the "broadcasting-satellite service" ("BSS"), the terminology used by the ITU and internationally to describe what is referred to as DBS in the United States.

[3] *See* SES AMERICOM, Inc., Petition for Declaratory Ruling To Serve the U.S. Market Using BSS Spectrum from the 105.5° W.L. Orbital Location, SAT-PDR-20020425-00071, April 25, 2002 (the "SES AMERICOM Petition"). As described in its Petition, SES AMERICOM proposes to provide a platform — to be known as "AMERICOM2Home" — for others to offer a broad range of innovative services to consumers in the United States and certain British Overseas Territories in the Caribbean. SES AMERICOM, while providing DBS transponder capacity to third parties, will not itself offer any retail or consumer services. *See* SES AMERICOM Petition at 2, 5.

Government of the United Kingdom on behalf of the Government of Gibraltar.[4] The satellite will be located four and one-half degrees from each of two U.S. DBS orbital locations – 101° W.L. and 110° W.L. The SES AMERICOM Petition was placed on Public Notice on May 17, 2002,[5] and the pleading cycle on the Petition was completed in July 2002.[6] Coordination between the United Kingdom and the United States concerning operation of the satellite in the 105.5° W.L. orbital location is ongoing.

More recently, in June 2003, EchoStar Satellite Corporation ("EchoStar") filed three applications for DBS satellites at reduced orbital spacings (the "EchoStar Applications").[7] As in the case of the SES AMERICOM satellite, the satellites proposed

---

4 The satellite corresponds to ITU filing USAT-S1 (filed July 27, 2001). *See also* USAT-S1 MOD-A (filed June 13, 2002); SES AMERICOM Petition at 4, 19-21; SES AMERICOM Consolidated Reply, SAT-PDR-20020425-00071, July 3, 2002 ("SES AMERICOM Consolidated Reply"), at 11, n.36.

5 *See Public Notice*, Report No. SAT-00110, May 17, 2002.

6 The vast majority of parties commenting on the SES AMERICOM Petition supported SES AMERICOM's proposal to offer DBS capacity from 105.5° W.L., noting that such service could promote competition and lead to new kinds of services in the U.S. DBS market. The incumbent DBS providers, however, argued that the proposed satellite could cause harmful interference to their current and future operations. SES AMERICOM acknowledged that interference concerns must be fully addressed, but noted that these interference claims were being made prior to any technical discussions or detailed studies, and that, under ITU rules, such issues should be dealt with in international coordination. *See* SES AMERICOM Consolidated Reply at 2-5.

7 *See* EchoStar Satellite Corporation, Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 123.5° W.L. Orbital Location, SAT-LOA-20030606-00107, June 6, 2003 (the "EchoStar 123.5° W.L. Application"); EchoStar Satellite Corporation, Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 96.5° W.L. Orbital Location, SAT-LOA-20030605-00109, June 5, 2003 (the "EchoStar 96.5° W.L. Application"); EchoStar Satellite Corporation, Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite in the 12.2-12.7 GHz and 17.3-17.8 GHz Frequency Bands at the 86.5° W.L. Orbital Location,

by EchoStar would also be located four-and-one-half degrees away from current U.S. orbital locations. EchoStar seeks a U.S. license for these satellites, and has requested the Commission to make, on behalf of EchoStar, the ITU filings necessary to support these satellites. These applications have not yet been accepted for filing by the Commission.[8] To SES AMERICOM's knowledge, the corresponding ITU filings have not yet been made, and coordination efforts have not commenced.

In response to these proposals, DIRECTV Enterprises, LLC ("DIRECTV") filed, on September 5, 2003, a petition (the "DIRECTV Petition") for a rulemaking on the feasibility of reduced orbital spacing, citing the proposals of SES AMERICOM, EchoStar, and others.[9] DIRECTV states that it has no categorical objection to consideration of DBS satellites at reduced orbital spacing, but argues that any such decision must be made at the domestic level and supported by a comprehensive technical record.[10]

SAT-LOA-20030609-00113, June 9, 2003 (the "EchoStar 86.5° W.L. Application") (collectively, the "EchoStar Applications").

[8] SES AMERICOM assumes that comments on the three EchoStar applications will be sought by the Commission when they are accepted for filing. In the instant comments, SES AMERICOM addresses only general regulatory and technical considerations related to reduced orbital spacing. SES AMERICOM does not comment on the specific regulatory and technical issues that may be raised by each of EchoStar's three applications, but reserves the right to do so in the pleading cycles for each of those applications.

[9] Petition of DIRECTV Enterprises, LLC For a Rulemaking on the Feasibility of Reduced Orbital Spacing in the U.S. Direct Broadcast Satellite Service, RM No. 10804, Sept. 5, 2003 (the "DIRECTV Petition").

[10] DIRECTV Petition at 5-6.

II. THE COMMISSION SHOULD NOT INITIATE A RULEMAKING ON THE ISSUE OF REDUCED SPACING OF DBS SATELLITES.

DIRECTV argues that nine-degree spacing reflects longstanding Commission "policy," and, therefore, a rulemaking is required to determine whether DBS satellites serving the United States should be permitted to operate at reduced spacing.[11] There is, however, no nine-degree "policy." DIRECTV ignores the facts that (1) international rules govern use of the DBS bands; (2) these international rules fully contemplate introduction of satellites at reduced orbital spacing, according to detailed procedures; and (3) the Commission rules for the DBS service (the "Commission Rules") appropriately defer to those international rules and procedures. No changes in Commission Rules or policy are required to permit operation of DBS satellites at reduced orbital spacing. And, as discussed below, the Commission has already held that the existing coordination requirements are sufficient to protect existing U.S. DBS systems. The Commission should continue to follow its longstanding rules and policy, and support the ITU's coordination procedures for entry of DBS satellites at reduced orbital spacing.

A. The Commission Rules, Through Incorporation of the International Rules Governing the DBS Frequencies, Already Contain Effective Procedures for Accommodating Satellites at Reduced Spacing.

1. DBS Operation is Governed by Appendices 30 and 30A of the ITU Radio Regulations.

The 12.2-12.7 GHz and 17.3-17.8 GHz bands employed by DBS satellites for service to the United States are internationally-planned bands. As explained in detail in the SES AMERICOM Petition, Appendices 30 and 30A of the ITU Radio Regulations contain the Region 2 "BSS Plan" and associated "Feeder Link Plan" (collectively referred

---

[11] DIRECTV Petition at 1-2.

to herein as the "BSS Plans") that assign channels with designated frequencies at specified orbital slots for BSS satellites.[12]

In Appendices 30 and 30A, the Member States (including the United States) pledge to "adopt, for their broadcasting-satellite space stations operating in the frequency bands referred to in this Appendix, the characteristics specified in the appropriate Regional Plan and the associated provisions."[13] Further, the Member States "shall not change the characteristics specified in [the Regional Plans], or bring into use assignments to broadcasting-satellite space stations . . . except as provided for in the Radio Regulations and the appropriate Articles and Annexes of this Appendix."[14]

2. Appendices 30 and 30A Provide for Reduced Orbital Spacing.

Appendices 30 and 30A include procedures for modifying the BSS Plans to accommodate systems whose technical parameters, including orbital location, differ from the planned assignments.[15] Due to the fact that the Plans for Region 2 (the ITU

---

[12] The Regional Administrative Radio Conference in 1983 (RARC-83) developed and adopted the Region 2 BSS and Feeder Link Plans. In 1985, at the World Administrative Radio Conference (WARC Orb-85), the Region 2 Plans were ratified internationally and became part of the ITU's Radio Regulations. *See* Policies and Rules for the Direct Broadcast Satellite Service, *Notice of Proposed Rulemaking*, 13 FCC Rcd 6907, 6912, n.20 (1998) ("*Part 100 NPRM*").

[13] ITU Radio Regulation, Appendix 30, Section 3.1.

[14] *Id.*, Section 3.2.

[15] *See* ITU Radio Regulations, Appendix 30, Article 4, and Appendix 30A, Article 4. The Region 2 Plan is defined in Appendix 30 as "[t]he Plan for the broadcasting-satellite service in the frequency band 12.2-12.7 GHz in Region 2 contained in this Appendix, together with any modifications resulting from the successful application of the procedures of Article 4." ITU Radio Regulations, Appendix 30, Section 1.5.

Region that includes the United States[16]) were developed nearly 20 years ago, and were based on analog technology that is now obsolete, modification of the Plans is required to accommodate virtually all modern Region 2 BSS systems. In fact, all of the current U.S.-licensed DBS satellites are operating pursuant to modifications, or pending modifications, to the BSS Plans. As the Commission has noted, "[m]odifications of the BSS Plans are expected not only to continue, but also to increase, in the future."[17]

The ITU rules make no distinction between modifications filed at original Plan locations and those filed for new orbital locations, including modifications that would lead to reduced orbital spacing for satellites serving the same geographical region.[18] The U.S. Administration itself has undertaken to modify the BSS Plans to introduce satellites at locations that were not assigned in the original BSS Plans, not only

---

[16] *See* ITU Radio Regulations, Article 5, Section I.

[17] DirecTV Enterprises, Inc., 16 FCC Rcd 18530, 18533, n.17 (Int'l Bur., Oct. 26, 2001); EchoStar Satellite Corporation, 17 FCC Rcd 894, 897, n.21 (Int'l Bur., Jan. 16, 2002).

[18] The same procedures apply regardless of whether the modification proposed by an Administration is "to modify the characteristics of any of its frequency assignments" or "to include in the Region 2 Plan a new frequency assignment." ITU Radio Regulations, Appendix 30, Section 4.2.1(a),(b). In fact, to SES AMERICOM's knowledge, no U.S. BSS modification to the Plan has actually modified any original U.S. Plan assignments. Instead, the modifications have been filed as new frequency assignments, in addition to the original U.S. Plan assignments at the same location. As such, all of the U.S. modifications are the same, from the ITU's point of view, as the various filings for satellites at reduced spacing *i.e.,* additional frequency assignments pursuant to Appendix 30, Section 4.2.1(b), and not modifications of original Plan assignments pursuant to Section 4.2.1(a). *See, e.g.,* FCC letter to Director, Radiocommunication Bureau (the "BR" or "Bureau") (Feb.12, 1996), initiating the Article 4 modification process for USABSS-5 and -6 (provided on ITU IFIC 2463). In the opening sentence, the Commission states that "the United States is applying the Article 4 procedure...to modify the Region 2 BSS and Feeder link Plan to *add* two assignments." (emphasis added).

in Region 2, but also in Regions 1 and 3, for satellites serving Europe and Asia.[19] Furthermore, the Commission has recognized that "[s]ervice into the United States from future entrants such as non-U.S. DBS satellites could result in smaller satellite spacing than the current nine-degree separation."[20] The proposals of SES AMERICOM, EchoStar, and others, for satellites serving the United States from reduced orbital spacings are fully consistent with the framework of the BSS Plans.

The BSS Plan modification procedures provide for protection of higher-priority (*i.e.*, earlier-filed) BSS systems. Annexes to each of Appendices 30 and 30A provide the methodology and criteria for determining whether a proposed modification might interfere with other BSS systems or BSS Plan assignments (as well as other satellite systems or terrestrial systems using the same frequency bands).[21] If certain

---

[19] In 1995, the United States filed for 12 modifications (two to the Region 2 Plans and ten to the Region 1 and 3 Plans) to provide BSS throughout the world. The U.S. actively pursued these modifications, culminating in the inclusion of five U.S. BSS systems in the Region 1 and 3 "List" for BSS downlinks. (The 2000 World Radiocommunication Conference ("WRC-2000") separated the pre-WRC-2000 Plans for Regions 1 and 3 into Plans containing only original national Plan assignments and "Lists" containing successful modifications of the BSS and Feeder Link Plans, in particular, systems with sub-regional coverage such as those pursued by the United States. *See* WRC-2000 Final Acts, Istanbul, 8 May - 2 June 2000, 2nd edition ("WRC 2000 Final Acts"), Resolution 542, "Appendices S30 and S30A Region 1 and 3 Plans and Associated List of Additional Uses.") These modifications were associated with the Application of Hughes Communications Galaxy, Inc., for Authority to Construct, Launch and Operate Galaxy/Spaceway, File Nos. 174-SAT-P/LA-95 – 181-SAT-P/LA-95 (filed Sept. 29, 1995). *See Public Notice*, Report No. SPB-29, November 1, 1995.

[20] Policies and Rules for the Direct Broadcast Satellite Service, *Report and Order*, FCC 02-110 (June 13, 2002) (*"DBS Order"*), ¶ 129.

[21] The BSS Plan procedures also protect terrestrial services in all three ITU Regions, BSS and fixed-satellite service ("FSS") in adjacent ITU Regions, and BSS feeder

criteria are met, the modification may be incorporated into the Plans without further negotiation. If the criteria are exceeded, international coordination is triggered with the Administration(s) whose systems or services are identified as potentially "affected."[22] In this way, new satellite systems are routinely coordinated, and ultimately entered into the Plans (or Lists in the case of Regions 1 and 3).[23] This procedure has long been used for proposed modifications to introduce new Plan assignments in Region 2 that would result in orbital spacings of satellites serving the United States of less than nine degrees.[24] And, as the Commission is aware, coordination of several more recent proposals is ongoing.[25]

---

links in adjacent ITU Regions. ITU Radio Regulations, Appendix 30, Annex 1 and Appendix 30A, Annex 1.

[22] *See* ITU Radio Regulations, Appendices 30 and 30A, Section 4.2.5.

[23] While there is a backlog at the ITU Radiocommunication Bureau in processing and publishing information on BSS networks, the ITU has alleviated the difficulties associated with this delay by making immediately available the "as received" information from Administrations on proposed modifications to the Plans.

[24] Other Administrations and organizations (Mexico, Canada and INTELSAT) have filed proposed modifications to serve the U.S. using satellite spacings smaller than nine degrees. For example, INTELSAT has filed modifications at 55.5°/56°, less than nine degrees from the U.S. assignment at 61.5° W.L., and Argentina has filed a modification at 94° W.L., less than nine degrees from the U.S. assignments at 101° W.L. See INTELSAT KUEXT 304E/304.5E and ARGSAT-A. And, as the Commission predicted, "non-U.S. satellite systems using their Plan assignments to serve the U.S. could result in smaller satellite spacing than the current nine degree spacing between U.S. DBS orbital slots." *Part 100 NPRM*, 13 FCC Rcd at 6934. Canada and Mexico have filed modifications of many of their original Plan assignments to extend coverage to the United States -- at 72.5°, 82°, 91° and 129° W.L. in the case of Canada, and 69.2° and 77° W.L. in the case of Mexico – which, if implemented, would result in several instances of reduced spacing, including 4.5°.

[25] In addition to coordination of SES AMERICOM's proposed satellite at 105.5° W.L., coordination is also ongoing with respect to a DBS satellite at 96.5° W.L. proposed by the Isle of Man. Coordinations are also presumably underway with respect to an ITU filing at 125° W.L. made by the Netherlands on behalf of New Skies Satellites, NV.,

3. The Commission Rules Defer to the Procedures Prescribed in Appendices 30 and 30A.

As is appropriate, given the comprehensive regulatory framework to which the United States is bound by treaty, the Commission's technical rules and procedures for DBS systems serving the United States simply incorporate and defer to the ITU procedures for modifying the Region 2 BSS Plans to accommodate additional frequency assignments and systems whose technical parameters differ from the original Plan assignments.[26] Compliance with the ITU rules and procedures is essentially the only technical qualification imposed by the Commission on DBS applicants.[27] The Commission has followed and relied on those procedures with respect to every prior U.S. DBS satellite, including DIRECTV's and EchoStar's satellites, all of which constitute modifications to the Plans.

The reliance in the Commission DBS licensing process on the ITU Appendix 30/30A procedure can be illustrated by examining U.S. DBS license applications, and associated Commission authorizations. DBS applicants must include in their applications the information specified in Appendices 30 and 30A for modifying the

---

and with respect to the ITU filings at 55.5° and 56° W.L. made by the United Kingdom on behalf of INTELSAT.

[26] *See* 47 C.F.R. §§ 25.111(c), 25.114(c)(22), 25.148(f).

[27] *See* 47 C.F.R. § 25.148(f) ("§ 25.148 Licensing Provisions for the Direct Broadcast Satellite Service. . . . (f) Technical qualifications. DBS operations must be in accordance with the sharing criteria and technical characteristics contained in Appendices 30 and 30A of the ITU's Radio Regulations. Operation of systems using differing technical characteristics may be permitted, with adequate technical showing, and if a request has been made to the ITU to modify the appropriate Plans to include the system's technical parameters."). The only other DBS technical requirement is placed on satellite antenna cross-polarization, to facilitate sharing adjacent channels at the same orbit location. *See* 47 C.F.R. § 25.215.

ITU Region 2 Plans.[28] The only technical analysis required is a showing with respect to the criteria in Annex 1 of Appendices 30 and 30A to determine compatibility with the BSS Plans and whether coordination is required with other co-frequency systems.[29]

In licensing DBS satellites, the Commission evaluates only the technical acceptability of the proposed system with respect to the criteria in Annex 1 to Appendices 30 and 30A.[30] Moreover, the Commission Rules permit systems that exceed the technical limits contained in Annex 1 to Appendices 30 and 30A, subject to completion of coordination.[31] The Commission routinely licenses applicants for proposed DBS systems that either exceed the Appendix 30/30A coordination triggers or do not contain the analysis necessary to determine whether the triggers are exceeded. In such cases, the Commission simply defers to the ITU coordination process, stating that the licensees must coordinate to obtain entry into the Plans.[32]

---

[28] More specifically, the Commission Rules require the application to provide the information requested in Appendix 4 of the ITU Radio's Regulations, which specifies the parameters required by the ITU in order to begin processing a modification to the BSS Plans. *See* 47 C.F.R. §§ 25.111(c), 25.114(c)(22)(i).

[29] *See* 47 C.F.R. § 25.114(c)(22)(ii). This is in contrast to the FSS application process, where the proposed system must be in compliance with various technical requirements adopted by the Commission and contained in its own rules. *See, e.g.,* 47 C.F.R. § 25.138, applicable to Ka-band FSS satellites.

[30] *See, e.g.,* EchoStar Satellite Corporation, *Order and Authorization*, DA 02-1455 (Int'l Bur., Jun. 20, 2002) ("*EchoStar VIII Order*"), ¶ 5.

[31] *See, e.g., DBS Order*, ¶ 107.

[32] *See, e.g.,* DirecTV Enterprises, Inc., 16 FCC Rcd 18530, 18532 (Int'l Bur., Oct. 26, 2001); EchoStar Satellite Corporation, 15 FCC Rcd 23636, 23640-1 (Int'l Bur., Nov. 27, 2000); EchoStar Satellite Corporation, 17 FCC Rcd 894, 897 (Int'l Bur., Jan. 16, 2002).

In its 2002 *Report and Order* revising the Commission's rules and policies governing the DBS service, the Commission reiterated its reliance on these ITU provisions. The Commission stated, for example, that "DBS operations are closely governed by Appendices 30 and 30A and their associated Plans,"[33] and that "U.S. DBS systems must comply with the provisions contained in Appendices 30 and 30A,"[34] including the procedure for modifying the Plans.[35]

Moreover, the Commission has explicitly declined to adopt other technical constraints, arguing that the modification process, including its coordination requirement, acts to protect U.S. DBS systems, while still reserving options for future entrants.[36] As the Commission has stated, under this regime, "[t]he United States will have an opportunity to work with the Administration proposing the Plan modification to ensure protection of U.S. DBS systems."[37]

The Commission has also consistently stated that the ITU priority system must be followed and respected by all U.S. licensees. The Commission has acknowledged that "U.S. licensees assigned to a particular orbit location . . . take their licenses subject to the outcome of the international coordination process."[38] The

---

[33] *DBS Order*, ¶ 111.

[34] *Id.*, ¶ 56.

[35] *Id.*, ¶ 106.

[36] *Id.*, ¶ 130.

[37] *Id.*

[38] Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking in IB Docket No. 02-34, and First Report and Order in IB Docket No. 02-54*, FCC 03-102 (May 19, 2003)

Commission has further stated that it expects "U.S. licensees to abide by international regulations when their systems are coordinated," cautioning that "[t]his may mean that the U.S.-licensee may not be able to operate its system if the coordination cannot be appropriately completed."[39] The International Bureau has made it clear that U.S. DBS licensees must coordinate with Administrations having proposed modifications of higher ITU priority.[40]

B. The Commission Should Continue to Support the Existing DBS Coordination Procedures.

As noted above, the Commission has routinely licensed DBS applicants for proposed DBS systems that exceed the Appendix 30/30A coordination triggers.[41] In such cases, the Commission has consistently deferred to coordination as prescribed by the ITU rules. As the Commission has stated, "[i]n other satellite services, the United States regularly coordinates satellite systems, and we believe that coordination is also

---

("*Space Station Licensing First R&O*"), ¶ 96. The Commission has noted that ITU date priority does not preclude it from licensing the operator of a U.S.-licensed GSO satellite on a temporary basis pending launch and operation of a satellite with higher priority in cases where the non-U.S.-licensed satellite has not been launched yet. *Space Station Licensing First R&O*, ¶ 295. But the Commission has cautioned that, when it has authorized a U.S. licensee to operate at an orbit location at which another Administration has ITU priority, it has issued the license "subject to the outcome of the international coordination process, and emphasized that the Commission is not responsible for the success or failure of the required international coordination." *Id.*

[39] *Space Station Licensing First R&O*, ¶ 96. The Commission has also stated that "if a license is revoked and the orbit location is reassigned, the new licensee is required to meet the specifications of the original ITU filing or file a new ITU filing." Id., ¶ 93.

[40] *EchoStar VIII Order*, ¶ 7.

[41] *See* note 32 *supra* and accompanying text.

appropriate for the DBS service."[42] And, as noted above, the Commission recently declined to adopt new technical rules for DBS systems, arguing that the Appendix 30/30A modification process "would ensure protection of U.S. DBS systems."[43]

Coordination has a number of important advantages over adoption of specific rules. First, it avoids placing restrictive "one-size-fits-all" requirements on the parties, which can preclude otherwise viable sharing arrangements. In coordination, the parties have the freedom to develop, based on the parameters of their existing and proposed systems, the least constraining terms that still adequately protect their systems. Coordination also allows the sharing arrangement between parties to evolve as the parties' requirements change, for example, as new satellites are designed and launched. Formal rulemakings are unable to keep up with such changing parameters and

---

[42] *Part 100 NPRM*, ¶ 45. As indicated by the Commission's remark, achieving technical compatibility through coordination is a common approach used to avoid the constraints of rigid technical requirements. For example, although the Commission's rules for Ku-band FSS prescribe certain downlink EIRP density levels, *see* 47 C.F.R. § 25.134, in practice these levels are exceeded by modern U.S. FSS space stations. *See, e.g.,* Application of Loral Aerospace Holdings, Inc., SAT-LOA-19950215-00024, February 15, 1995, Sections 3 and 6; Application of PanAmSat, SAT-LOA-20000929-00137, September 29, 2000, at B-3 and B-8. Compliance with the EIRP density levels of §25.134 is assessed at the time of the earth station application to communicate with a particular space station. If the associated space station exceeds the § 25.134(a) levels, the space station operator must coordinate the higher levels with adjacent operators, and provide evidence that the coordination has been successfully completed in the form of an affidavit. *See* 47 C.F.R. § 25.134(b). Recently, the Commission has undertaken to update its baseline technical rules for FSS, only, however, after many years of experience with operation above the existing levels. *See* 2000 Biennial Regulatory Review – Streamlining and Other Revisions of Part 25 of the Commission Rules Governing the Licensing of, and Spectrum Usage By, Satellite Network Earth Stations and Space Stations, *Notice of Proposed Rulemaking*, IB Docket No. 00-298, FCC 00-435, December 14, 2000.

[43] *DBS Order*, ¶ 130.

requirements. All of these advantages have been exploited by DBS operators to date.[44] The Commission's adherence to the international technical requirements for DBS satellites has simplified the regulatory process for U.S. DBS systems and allowed them to take full advantage of the flexibility contained in the ITU rules governing these bands.

Through coordination, the Commission, as the party ultimately responsible for coordination of U.S. modifications to the Plans with the systems of other administrations, can pursue its policy objectives. In particular, coordination can achieve all of the objectives specified in the Public Notice, including ensuring protection of existing services to DBS customers, and encouraging "intensive and efficient use of spectrum and to encourage competition and broadband deployment."[45]

The Commission is currently participating in a number of coordinations involving DBS satellites at less than nine-degree spacing.[46] The Commission should fully support those ongoing proceedings, and encourage good faith among the participants. Most importantly, the Commission should not prejudge the outcome of any of these coordinations by adopting rules or policy that would act to arbitrarily and unnecessarily constrain the agreements that may be reached.

---

[44] For example, spot beam satellites may not have been possible without a change in the Commission Rules, had those rules specified parameters based on the existing type of CONUS operation.

[45] *Public Notice* at 2.

[46] *See* note 25 *supra*.

C. DIRECTV's Arguments in Favor of a Rulemaking Are Fundamentally Flawed.

1. There is no nine-degree spacing "policy," either in the ITU Radio Regulations or Commission Rules.

DIRECTV argues that U.S. DBS operators have relied on nine-degree spacing in designing and building their systems, and this reliance should be respected. As demonstrated above, there is no nine-degree spacing "policy," under either the ITU Radio Regulations or Commission Rules. Appendices 30 and 30A and the Commission Rules contain procedures to coordinate proposed modifications with any potentially-affected existing Plan assignments, and higher priority pending modifications, regardless of the orbital location of the proposed modification.[47]

Moreover, nowhere in the Commission Rules or precedent is it specified that DBS satellites must or should be spaced at nine-degrees.[48] To the contrary, the Commission has recognized that "[s]ervice into the United States from future entrants such as non-U.S. DBS satellites could result in smaller satellite spacing than the current

---

[47] In other words, U.S. DBS systems are protected, not by an arbitrary orbital spacing, but by the parameters and priority of their corresponding ITU filings, and criteria and procedures that trigger coordination between systems. If coordination is not triggered under the ITU rules, the proposed satellite can enter the Plan regardless of orbital spacing. And even if coordination is triggered with a higher priority satellite, the proposed satellite can still enter the Plan following successful coordination. Whether it has recognized it or not, these are the protection mechanisms upon which DIRECTV has been relying.

[48] The only mentions by the Commission of nine-degree spacing to which DIRECTV points are contained in discussions of the history of the BSS Plans. *See Part 100 NPRM*, ¶ 6.; *DBS Order*, ¶ 6. In both documents, the Commission later explains that the fact that the initial Plan assignments are separated by nine degrees does not mean that satellites could not be introduced operating co-coverage at closer spacings. *See Part 100 NPRM*, ¶ 50; *DBS Order*, ¶ 129.

nine-degree separation."[49] Notwithstanding this possibility, the Commission Rules have always incorporated the international rules, and, with reduced-spacing scenarios fully in mind, the Commission has explicitly declined to adopt additional technical rules governing the DBS service.[50]

Therefore, while it is true that some of the initial BSS Plan assignments for the United States were spaced nine-degrees apart, these assignments were adopted in conjunction with procedures for modifying the BSS Plans on a case-by-case basis. Instead of imposing artificial constraints on orbital spacing, the fundamental premise of Appendices 30 and 30A is that whatever spacing can be coordinated can be accommodated. There simply is no Commission rule or policy that needs to be changed via rulemaking to accommodate or govern satellites at reduced spacing.

2. There is no Commission Precedent Supporting a Rulemaking on Reduced Spacing.

DIRECTV claims that the Commission has indicated that a future rulemaking might be necessary to permit less than nine-degree spacing. However, none of the citations to which DIRECTV points clearly state that a rulemaking would be necessary or appropriate on this issue.[51] In fact, quite the contrary is true. In the DBS

---

[49] *DBS Order*, ¶ 129.

[50] *See* Section II.C.2 *infra.*

[51] DIRECTV argues that the Commission, in the *Part 100 NPRM*, stated that it would consider reduced orbital spacing "in future rulemakings," if necessary. DIRECTV Petition at 3-4. The discussion cited by DIRECTV is far from clear. The Commission appears to be speaking more of "[u]se of DBS frequencies by NGSO-FSS systems," which, the Commission states, "is . . . not the focus of this rulemaking," and "will be considered in future rulemakings," although parties "should be aware and take into consideration the potential for such use in the future." *Part 100 NPRM*, ¶ 50. In any case, as discussed below, in the Order stemming from

rulemaking cited by DIRECTV, the Commission did indeed note that *DIRECTV* had urged in its comments that "less than 9-degree separation should be studied very carefully."[52] However, the Commission followed this reference to DIRECTV's comment with a discussion of the existing international protection procedures, noting that "other countries wishing to serve the United States will normally have to modify their assignments in the ITU BSS and feeder-link Plans to allow them to provide service here," and that, under ITU procedures, the "United States will have the opportunity to work with the Administration proposing the Plan modification to ensure protection of U.S. DBS systems."[53] The Commission concluded by stating that "our existing rules should provide adequate protection of U.S. DBS systems, while still preserving options for future entrants."[54] Therefore, far from suggesting the need for a future rulemaking to address reduced spacing, the Commission itself explained why such a rulemaking is not necessary.

Furthermore, it is irrelevant that the Commission has stated that it will address DIRECTV's proposal for 4.5° spacing in the 17.3-17.7 GHz BSS expansion band in a future proceeding.[55] There has been no suggestion that "addressing" orbital spacing in the 17.3-17.8 GHz band, which does not become available for DBS service links until

---

that NPRM, the Commission itself explained why a rulemaking on reduced spacing is not necessary.

[52] *DBS Order*, ¶ 129.

[53] *Id.*, ¶ 130.

[54] *Id.*

[55] *See* DIRECTV Petition at 6, n.11.

2007, means adoption of a fixed orbit spacing for U.S. systems. In fact, this would seem particularly difficult, given that the current Commission applications (and associated ITU filings) for this band exhibit a variety of orbital spacings.[56]

With respect to DIRECTV's assertion that the Commission has "acknowledged repeatedly" that a rulemaking is generally better for implementing a new policy than isolated proceedings,[57] it is important to consider the context of the Commission statement cited by DIRECTV for this proposition. In that case, the Commission was addressing the problem of "establishing service rules by waiver,"[58] in a case where there were no rules either permitting the service proposed by the applicant, or providing protection to existing systems from such a potential service.[59] That situation is quite different from the consideration of DBS systems at new orbit locations, where the Commission already has in place comprehensive technical rules and procedures for processing new proposals and protecting existing systems. No waiver of the

---

[56] For example, Pegasus has filed for the 107° W.L. and 110° W.L. orbital slots, while DIRECTV filed for 105.5° W.L. *See* Application of DIRECTV Enterprises, Inc., File No. SAT-LOA-19970605-00049-00051, June 5, 1997; Application of Pegasus Development DBS Corporation, File No. SAT-LOA-20020322-00032-00034, March 21, 2002; Application of Pegasus Development Corporation, File No. SAT-MOD-20020322-00036, March 22, 2002.

[57] DIRECTV Petition at 6.

[58] Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, *Second Report and Order*, FCC 02-116 (May 23, 2003), ¶ 218.

[59] In that case, Northpoint Technology, Ltd. sought a waiver of Commission rules to permit it to deploy a terrestrial system in the 12.2-12.7 GHz band employed by DBS systems. *Id.*, ¶ 7.

Commission's current rules is required to consider DBS systems at reduced orbital spacings.[60]

Finally, the considerations that prompted the Commission's 1983 action to reduce orbital spacing in the FSS, via rulemaking, are not applicable in this case.[61] A rulemaking was appropriate in that context because the proposed action required spacecraft to be relocated, and earth stations re-pointed, in a systematic and workable manner. Commission oversight was important to manage this transitioning of U.S. systems to new orbit locations, which affected numerous satellite and earth station licensees. Importantly, the Commission was able to implement this transition in a manner that was fully consistent with its international coordination obligations.[62] In the

---

[60] There are, however, analogies that can be drawn between the current situation and the proceeding cited by DIRECTV. When determining appropriate rules on how to accommodate co-frequency non-geostationary orbit ("NGSO") FSS systems in the DBS band, the Commission adopted essentially the same framework and sharing criteria as developed within the ITU. *See* Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, *First Report and Order*, FCC 00-418 (Dec. 8, 2000), ¶¶ 2, 176. This is another example in which the Commission has relied heavily on criteria and processes already established in the ITU Radio Regulations.

[61] *See* Licensing of Space Stations in the Domestic Fixed-Satellite Service and Related Revisions of Part 25 of the Rules and Regulations; *Report and Order*, 54 Rad. Reg. 2d (P&F) 577 (1983) ("*FSS Reduced Orbital Spacing Order*"); *Memorandum Opinion and Order,* 57 Rad. Reg. 2d (P&F) 653 (1984).

[62] In the *Reduced Orbital Spacing Order*, the Commission acknowledged the relevant ITU procedures, and "re-affirmed [its] commitment to fully cooperate with other countries through the frequency coordination procedures of the international Radio Regulations." *FSS Reduced Orbital Spacing Order,* 54 Rad Reg. 2d (P&F) at 592. The Commission noted that this commitment requires it to make ITU filings for the slots it proposed to use, and follow the necessary international procedures, including coordination with the earlier-filed satellites of other countries, in order to accommodate the proposed U.S. satellites. *Id.* Indeed, negotiations with Canada and

instant case, no party has proposed moving existing U.S. Plan assignments.[63] Given the assignments already contained in the BSS Plans, as well as the number of later ITU filings for modifications of the BSS Plans, the loss of ITU priority that would accompany such a move, as well as the cost to re-point millions of DBS dishes, would be debilitating for U.S. DBS systems and consumers.

3. DIRECTV's Technical Concerns Can Be More Effectively Addressed In International Coordination than In a Domestic Rulemaking.

DIRECTV argues that the technical flexibility offered by nine-degree spacing has fostered expansion and innovation of U.S. systems, permitting, *e.g.*, spot beam satellites, higher order modulation and coding, and HDTV.[64] However, all of these technologies can be, and routinely are, taken into account in coordination. Moreover, it should be recognized that accommodating satellites at reduced spacing is, like use of higher order modulation and improved coding,[65] an effective technique for expanding the DBS capacity available to provide "advanced, bandwidth-intensive services"[66] to U.S.

Mexico had been successfully completed by the time the Commission determined to migrate to a two-degree spacing environment. *Id.* The Commission highlighted this agreement as demonstrating "in practice our commitment to accommodate the actual requirements of other countries for orbital locations through the international frequency coordination procedures." *Id.* at 593.

63 At least no party has proposed this explicitly. Some of DIRECTV's proposals would appear to have the same effect. *See* Section II.C.4 *infra.*

64 DIRECTV Petition at 9.

65 The improved coding offsets, to a large degree, the higher power required by the higher order modulation.

66 DIRECTV Petition at 9.

customers. Like the techniques cited by DIRECTV, reduced spacing should be encouraged where possible.

DIRECTV argues that the Commission should adopt technical parameters, and protection criteria, and use these to adopt new technical rules for the DBS service.[67] DIRECTV fails to explain how such rigidity could possibly be preferable to allowing operators, such as DIRECTV itself, to apply their own particular parameters and protection criteria in a coordination environment. Indeed, DIRECTV's position appears contrary to its earlier support of a Commission proposal to permit DBS providers to exceed the technical limits in Annex 1 to Appendices 30 and 30A of the Radio Regulations. In that proceeding, DIRECTV argued that the rule change "will provide additional flexibility for the development of systems that may exceed Annex 1 technical limits, but that are nonetheless acceptable to affected administrations."[68] DIRECTV concluded that "[t]here is no reason that the public should be denied the benefits of potentially innovative services in such a scenario."[69]

Individual DBS satellites have different design and operating parameters, and serve different commercial purposes. Protecting a CONUS beam, for example, involves different considerations than protecting spot-beams. Such differences should and would be taken into account in inter-system coordination. The Commission should continue its practice of employing those procedures, and not prejudge the outcome of ongoing and future coordinations.

---

[67] *Id.* at 16.

[68] Comments of DIRECTV, Inc., IB Docket No. 98-21, April 6, 1998, at 23.

[69] *Id.*

4. Contrary to DIRECTV's Apparent Suggestion, The Commission Cannot Unilaterally Assign DBS Satellite Spacing.

DIRECTV argues that a rulemaking is required so that the entire range of possibilities and trade-offs can be evaluated.[70] DIRECTV speculates that perhaps three-degree or six-degree spacing would be better than 4.5-degree spacing, and that "all such regimes should be considered."[71] DIRECTV appears to be suggesting that the Commission has an unfettered ability to assign DBS satellite spacing, according to a "myriad of scenarios."[72] As the Commission itself has explained repeatedly,[73] this is not the case.

As acknowledged in the Public Notice, new ITU filings would be required to place U.S.-licensed satellites between existing U.S. assignments.[74] These would come into the ITU system at a lower priority than many other filings along the relevant portion of the orbital arc. Moreover, uniform six-degree (or almost any other) spacing would require moving most existing U.S. BSS Plan assignments and pending modifications, placing them at the end of the queue in terms of ITU priority. The Commission has recognized that "[d]ate priority is becoming more and more important," and, in adopting its own rules, has cautioned against approaches in which "U.S. date priority within the

---

[70] DIRECTV Petition at 7, 10.

[71] *Id.* at 7, 11-12.

[72] *Id.* at 12.

[73] *See* notes 38-39 *supra* and accompanying text.

[74] *Public Notice* at 2.

ITU process could be lost."[75] DIRECTV's suggestion that a new spacing scheme could be implemented domestically is inconsistent with Commission rules and policy.[76]

On the other hand, 4.5° spacing can be consistent with the existing BSS Plans and filed modifications, as indicated by the SES AMERICOM proposal at 105.5° and the EchoStar Applications. In theory, 3° spacing could also preserve the locations of the current U.S. BSS Plan assignments; however, no party has proposed pursuing a DBS

---

[75] Amendment of the Commission's Space Station Licensing Rules and Policies, *Notice of Proposed Rulemaking and First Report and Order*, FCC 02-45 (Feb. 28, 2002) ("*Space Station Licensing NPRM*"), ¶ 20.

[76] DIRECTV attempts to argue that the Commission already ignores the ITU priority of non-U.S. licensed systems to benefit U.S. licensees. However, the example cited by DIRECTV indicates otherwise. DIRECTV claims that "[t]he Commission has held that even when a foreign satellite service provider has ITU priority, 'existing U.S. satellite systems are not required to change their licensed operating parameters to accommodate additional non-U.S. licensed systems.'" DIRECTV Petition at 16, n.22. The cited case, however, does not demonstrate a Commission disregard of ITU priority. In that case, the Commission could not grant a U.S. license to Pacific Century Group, Inc. ("PCG") for orbital slots for which PCG had ITU priority because the Commission had already licensed the slots in the first Ka-band processing round. *See* Second Round Assignment of Geostationary Satellite Orbit Locations to Fixed Satellite Service Space Stations in the Ka-Band, 16 FCC Rcd 14389, 14396-99 (2001). However, the Commission had licensed the slots in the first processing round before it reached agreement to open satellite markets to competition pursuant to the World Trade Organization Basic Telecom Agreement. *Id.* at 14398. More importantly, the Commission did not ignore the priority of the United Kingdom for the subject orbital locations. The Commission had granted the first round licenses subject to the condition that they "complete international coordination with PCG before operating at their U.S.-licensed locations." *Id.* at 14399. This condition respects the priority of the United Kingdom. Moreover, such coordination could well lead to changes in operating parameters of the U.S. licensees, or even prevent the U.S. satellite from launching. More recently, the Commission has explained that "a lower ITU priority network may be permitted to access the U.S. market if a higher ITU priority satellite has not been launched, but in such a case the lower ITU priority network is subject to proof of coordination with the higher ITU priority satellites." Loral Spacecom Corporation, *Order*, DA 03-2624 (Aug. 8 2003), ¶16. *See also Space Station Licensing First R&O*, ¶ 295.

system spaced 3° from its co-coverage neighbors. Such spacing would entail significant technical constraints, due to the minimal earth station antenna discrimination[77] of 45 cm dishes at a 3° off-axis angle (and even smaller angles that result from the inclusion of an antenna mispointing factor). Protecting such a minimal earth station antenna discrimination would result in very low EIRPs, and would not allow a direct-to-home service, for which small dishes and high power are crucial parameters.

The Commission may, of course, decide for itself which ITU filings it will file on behalf of its own licensees. However, such filings must be coordinated with higher priority systems in order to gain entry into the BSS Plans. The Commission has noted that U.S. licensed systems may not be able to operate if coordination required by ITU rules cannot be successfully completed.[78] DIRECTV's apparent suggestion that the Commission could somehow implement systems in a manner inconsistent with ITU priority runs counter to the foundation of ITU Radio Regulations and the Commission Rules, and, therefore provides no justification for a rulemaking.

5. DIRECTV's Transparent Efforts to Delay Action on the SES AMERICOM Petition and EchoStar Applications Should Be Rejected by the Commission.

As explained above, there is no nine-degree spacing "policy" for DBS satellites, nor precedent requiring a rulemaking to address reduced orbital spacing. Moreover, DIRECTV's technical concerns can be far more effectively addressed in coordination than through new domestic rules. Finally, some of DIRECTV's suggestions

---

[77] Earth station antenna discrimination is defined as the peak earth station antenna gain minus the earth station gain towards a neighboring satellite. It is a key factor in determining the carrier-to-interference ratio of a given sharing scenario.

[78] *Space Station Licensing First R&O*, ¶ 96.

for a rulemaking appear to wholly ignore the ITU framework within which DBS satellites operate. DIRECTV's call for a rulemaking at this juncture to evaluate the "entire range of possibilities"[79] appears to be nothing more than a transparent effort to delay entry of competitors.

DIRECTV filed its Petition more than a year after the SES AMERICOM Petition was filed and a full pleading cycle on the merits of that Petition had already been completed. It was only when EchoStar agreed that reduced spacing has merit, and filed its own DBS applications, that DIRECTV filed its rulemaking proposal. The filing appears to be a desperate attempt to stall consideration of those proposals, particularly the SES AMERICOM Petition, which is fully ripe for Commission decision.[80]

DIRECTV states that it has no categorical objection to a consideration of satellites at reduced orbital spacings.[81] If this is true, it should have no difficulty considering concrete proposals for new satellites in the context of a coordination, as prescribed by the ITU Radio Regulations and the Commission Rules. The fact that DIRECTV appears to consider it preferable to contemplate scenarios in which the U.S. would adopt rigid technical requirements for DBS satellites that could preclude creative sharing solutions (and possibly risk ITU priority for some U.S. systems), demonstrates that DIRECTV is willing to do just about anything to *avoid* coordination of satellites at reduced orbital spacings.

---

[79] DIRECTV Petition at 7.

[80] *See* Section V *infra.*

[81] DIRECTV Petition at 5.

Finally, the Petition appears to be an attempt to leave open the possibility of DIRECTV's own use of the proposed orbital locations, in the event it is unable to prevent their use by others.[82] DIRECTV's Petition should be rejected by the Commission, with instructions to DIRECTV to continue the coordination processes that have already commenced.

III. REDUCED ORBITAL SPACING IS TECHNICALLY FEASIBLE IN MANY CASES, BUT THE FEASIBILITY OF ANY GIVEN PROPOSAL SHOULD BE EVALUATED ON A CASE-BY-CASE BASIS IN INTERNATIONAL COORDINATION.

A. Coordination of DBS Satellites at 4.5° Spacing Is Technically Feasible in Many Cases.

In the Public Notice, the International Bureau seeks comment on the general technical issues associated with reduced DBS orbital spacing.[83] While, as discussed above, the technical feasibility of each proposal should be judged on its own merits, and resolved in inter-system coordination, the SES AMERICOM proposal for a

---

[82] As discussed below, DIRECTV urges the Commission to dismiss the pending petitions and applications, and subject any new BSS Plan assignments (including, apparently, slots assigned to foreign Administrations) to auctions in which all DBS operators could participate. DIRECTV Petition at 18. However, the Commission cannot auction, or in any other manner grant U.S. licenses for, orbital slots for which it has no rights under ITU rules and procedures. *See* Section IV *infra.*

[83] *Public Notice* at 3. In the Public Notice, the Commission points out that the subject bands are also shared with the non-geostationary satellite orbit fixed-satellite service ("NGSO FSS") and the multichannel video data distribution service ("MVDDS"), and that these services must be considered and accommodated. *Public Notice* at 2. In both of these sharing scenarios, the primary concern has been interference into DBS receivers. There are no rules for the protection of NGSO FSS or MVDDS from DBS transmissions. Moreover, the rules for protection of DBS from NGSO FSS or MVDDS systems are not specific to orbital location. It should be noted that the MVDDS rules are the subject of an ongoing challenge. Northpoint Tech., Ltd. v. FCC, No. 02-1194 and consolidated cases (D.C. Cir.).

satellite at 105.5° W.L. provides a useful illustration of the possibilities for reduced spacing.

In the SES AMERICOM Petition, SES AMERICOM explained how analysis performed in accordance with Appendices 30 and 30A of the ITU Radio Regulations supported SES AMERICOM's belief that it would be able to reach successful agreements with potentially affected Administrations.[84] In subsequent pleadings, SES AMERICOM expanded on that showing to further demonstrate how its proposed satellite could be coordinated with adjacent U.S.-licensed systems.[85]

EchoStar, in its own applications for satellites at 4.5° spacing, has also explained why such spacing should be achievable in appropriate cases.[86] EchoStar notes that, while it initially met reduced spacing proposals with skepticism, additional technical analysis has suggested that operation of a properly-designed DBS satellite at certain orbital slots located 4.5° from U.S. BSS assignments could be managed, without harmful interference to adjacent systems.[87] EchoStar concluded that "[t]hrough the careful coordination of power levels and frequencies delivered to a given area on the ground by satellites that are separated by 4.5 degrees, C/I levels could be managed to support economically viable DBS operations at these reduced spacings."[88]

---

[84] *See* SES AMERICOM Petition at 8-11.

[85] *See* SES AMERICOM Consolidated Reply at 22-32, and Attachments 1 and 2.

[86] *See, e.g.* EchoStar 96.5° W.L. Application at 1, 4-6.

[87] *Id.* at 4.

[88] *Id.* at 5.

Finally, international experience with DBS satellites spaced less than nine-degrees apart indicates that 4.5° spacing should be generally feasible in the United States. In Europe, 50 million households are receiving direct-to-home multichannel video service from satellites that are spaced approximately 4.3° apart and have common coverage areas over central Europe. These SES satellites – at 19.2° E.L. and 23.5° E.L. – went into service many years apart, so that installation of receive dishes for the first satellite could not take into account the presence of the subsequent satellite in the initial pointing of the dishes.[89]

These examples, and the considerations outlined below, indicate that coordination of DBS satellites at 4.5° spacing is likely feasible in many cases, and such coordination efforts should be supported by the Commission.[90]

B. Each Proposal for a Satellite at Reduced Spacing Should Be Judged on its Own Merits.

The International Bureau seeks comment on an appropriate orbital spacing for DBS satellites.[91] The spacing needed between satellites depends entirely on the

---

[89] While these systems use different dish sizes than those used in the U.S. (60 cm typical, as compared to 45-50 cm in the U.S.), the difference in received interference between the dish sizes in a 4.5° spacing environment can be taken into account by analytically increasing the relative level of interference expected into the U.S. DBS system by the difference between the sidelobe pattern of a 45 cm dish as compared to a 60 cm dish. With such analytical scaling, the interference level that would be expected to be received by the U.S. DBS systems is comparable to the interference levels currently being received by the European systems with 4.3° separation.

[90] At this time, SES AMERICOM takes no position on the feasibility of the proposals contained in the EchoStar Applications. Technical feasibility will depend on the technical parameters of the adjacent satellites and ITU filings, and on EchoStar's own performance and service requirements. The extensive studies required to assess these issues should be undertaken in coordination.

[91] *Public Notice* at 3.

particular operating parameters and service requirements of those satellites. However, there is no need for the Commission to force all satellites to operate in an environment that is appropriate only for some. Under Appendices 30 and 30A, incorporated by reference in the Commission Rules, this issue is handled on a case-by-case basis, in the context of a coordination. The Commission should not prejudge the possible outcomes of such coordination, but should continue to apply its existing rules.[92]

As recognized in the Public Notice, a number of different techniques can be exploited by satellite operators to aid in coordinating satellites at reduced spacing.[93] As SES AMERICOM has described in the past, use of newer technologies such as Turbo or low density parity-check ("LDPC") forward error-correction coding[94] are some of the techniques that permit a new satellite and existing satellites to co-exist at reduced orbital spacing without sacrificing the commercial competitiveness of any of the satellites. In addition, coordination is facilitated when two networks employ EIRP levels that roll-off similarly across the service area. Through inter-system coordination, these and other techniques can be explored thoroughly by the parties involved.

The International Bureau also seeks comment on the reference antenna pattern, pointing error and antenna size to assume for existing and new DBS subscriber

---

92 This regulatory framework avoids the need for a transition period for implementing satellites at reduced spacing. *See Public Notice* at 4. Once a new satellite is coordinated to function in the existing environment, there is no need to delay its launch and operation.

93 *Public Notice* at 3.

94 These lower the required received carrier-to-noise ratio by several dB and consequently lower the acceptable C/I that the new satellite, as well as the incumbent satellites, can tolerate for the same level of service. *See* SES AMERICOM Consolidated Reply at 27, 29.

earth systems. There are no unique answers to these questions. These assumptions depend on the relevant systems, and are addressed in detail in any coordination. The assumptions agreed to by the parties will vary from coordination to coordination. Use of assumptions based on modern antenna patterns, and careful and conscientious installation procedures for antenna pointing, will aid in achieving successful coordination.

Finally, the International Bureau seeks comment on the impact of DBS systems at reduced spacing on multi-satellite subscriber Earth station antennas. SES AMERICOM has addressed this issue in prior filings with the Commission. There is no technical reason why the off-axis discrimination of double- or triple-feed dishes could not be similar to that of current dishes or common reference antenna patterns, using current design techniques.[95] Analysis of the properties of the actual multi-satellite antenna(s) proposed to be used by a party to a coordination would be performed in coordination.

In sum, implementation of DBS satellites at reduced orbital spacing is technically feasible in many cases. However, the spacing that can be accommodated, the techniques that can be used to achieve coordination, and the assumptions that should be used in coordination, all vary depending on the particular proposed satellite and orbital location. With this in mind, the Appendix 30/30A procedures accommodate new satellites on a case-by-case basis. The Commission therefore does not need to establish unique answers to these questions, nor should it. Any adoption of rules or policy in this regard would constrain the development of specialized solutions in coordination. The Commission should actively support individual coordinations, encourage good faith

---

[95] *See, e.g.*, SES AMERICOM Consolidated Reply at 28.

efforts by the parties, and welcome service from any DBS satellites for which technical agreements can be reached.

C. The DIRECTV Technical Proposals Should be Rejected by the Commission.

In its Petition, DIRECTV made a number of technical proposals for criteria that should be used to assess the technical feasibility of satellites in new orbital slots. For the reasons given above, the Commission should continue to defer to coordination for resolution of such issues, and not adopt rules or policy that would unnecessarily constrain new entry. At the same time, SES AMERICOM would like to take this opportunity to address briefly a number of DIRECTV's technical arguments and proposals.

DIRECTV provides no technical justification for its unnecessarily conservative proposed 24 dB C/I criteria (based on a two-satellite aggregate C/I of 21 dB) for protecting existing U.S. DBS systems from new intra-service entrants. While the ITU used the 21 dB aggregate criteria to develop the latest Region 1 and 3 Plans, the criteria used by the ITU is conservative in order to ensure that bi-lateral coordinations take place where needed. Further, this ITU criteria was not used as a hard limit when developing the Plans, but as a goal that was not met in many cases. Some Plan assignments do not meet the 21 dB criteria by as much as 3.8 dB.[96]

In addition, an aggregate-to-single entry factor of 3 dB is questionable, when taken together with a large earth station antenna mispointing assumption. For example, when the earth station is mispointed toward one adjacent satellite, it is at the

---

[96] *See* ITU Radio Regulations, Appendix 30, Article 11.

same time mispointed by the same amount away from the other adjacent satellite, making the reduction in single-entry C/I from two adjacent satellites much less than 3 dB.

Furthermore, the operational parameters that DIRECTV associates with or proposes for systems at new orbital locations (75-85 cm dishes, C/I of 12 dB, no protection from incumbents, etc.)[97] would clearly make competitive service from new satellites impossible. DIRECTV provides no reason for handicapping new systems *a priori* with such inflexible requirements, when coordination can permit more optimal parameters.

In any case, such topics are more appropriately addressed in the ongoing coordination between DIRECTV and SES AMERICOM. That coordination, and not a domestic rulemaking, is the forum established by international rules for determining the appropriate protection levels for the parties' respective systems.

IV. THE U.S. DBS LICENSING PROCEDURES SHOULD RESPECT ITU PRIORITY.

DIRECTV argues that "any new DBS orbital locations that the Commission makes available should be granted to licensees based on the current rules governing domestic DBS service."[98] SES AMERICOM agrees that this can be the case for any orbital locations and frequencies assigned *to the United States* under the BSS Plans. However, DIRECTV's proposal appears to be broader. In particular, DIRECTV seeks dismissal of the SES AMERICOM Petition – which does not propose use of a U.S.

---

[97] DIRECTV Petition at 15 and 17-18.

[98] DIRECTV Petition at 18.

orbital slot – so that other "all current and potential providers of U.S. DBS service" have the opportunity to acquire and make use of the subject orbital location.[99]

DIRECTV ignores the fact that a foreign Administration (the United Kingdom) has priority rights to SES AMERICOM's proposed orbital location. The United States has not even submitted an ITU filing for a satellite at this location. The Commission cannot license orbital resources to which it has no right. [100] And even if the U.S. submitted an ITU filing for this orbital location at this point, it would not be able to coordinate operation of a U.S.-licensed satellite at the same location as a co-coverage foreign-licensed satellite.[101] As it has in the past, the Commission should respect ITU priority, and its rules for foreign entry under the *DISCO II* rules.[102]

---

[99] DIRECTV Petition at 18.

[100] The Commission recently acknowledged this point in its Order on auction of DBS licenses. Auction of Direct Broadcast Satellite Licenses, *Order,* AUC-03-52, FCC 04-8 (January 15, 2004). In reaffirming its earlier decision that it has the authority to auction "DBS licenses for channels at orbit locations assigned to the United States under the ITU Region 2 Band Plan," *id.*, at 6, the Commission distinguished the SES AMERICOM proposal, noting that "SES Americom's application to provide DBS service to the United States and the Caribbean would not involve the provision of service from an orbit location assigned to the United States or a request by the United States to modify the ITU Region 2 Band Plan." *Id.* at 10.

[101] As noted above, the Commission has licensed satellites pending coordination with higher-priority satellites. *See* note 76 *supra*. However, such a license confers no meaningful rights if there is no reasonable expectation that coordination can be achieved.

[102] *See* Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, 12 FCC Rcd 24094 (1997) ("*DISCO II Order*"). *See also* Digital Broadband Applications Corp., File No. SES-LIC-20020109-00023, *Order*, DA 03-1526, May 7, 2003, in which the International Bureau authorized Digital Broadband Applications Corp. ("DBAC") to provide service in the United States using, *inter alia*, two Canadian direct broadcast satellites. In that case, there was never any suggestion of appropriating the Canadian orbital locations and subjecting them to

DIRECTV also proposes that the Commission cause foreign-licensed systems serving the United States to abide by all U.S. domestic service rules governing DBS.[103] As DIRECTV itself acknowledges, however, non-U.S. satellite operators serving the U.S. are *already* required to comply with all Commission rules applicable to U.S. satellite operators.[104]

V. THE COMMISSION SHOULD EXPEDITIOUSLY GRANT THE SES AMERICOM PETITION.

The ITU procedures described in detail above apply directly in the case of the SES AMERICOM satellite at 105.5° W.L. In pursuing entry of this satellite into the BSS Plans, the Governments of the United Kingdom and Gibraltar have followed the relevant ITU rules and procedures for use of these bands.[105] In addition, the SES AMERICOM Petition meets all of the Commission requirements for entry of foreign-licensed satellites.[106]

---

auction in the United States. To the contrary, the Commission praised the DBAC proposal, and argued that U.S. service from these Canadian slots would enhance competition in the United States for broadband video and data services. *Id.*, ¶¶ 16, 18.

[103] DIRECTV Petition at 19.

[104] DIRECTV Petition at 19; *DISCO II Order,* ¶ 173; *DBS Order*, ¶ 91.

[105] Like other DBS satellites serving the U.S., the technical parameters of the SES AMERICOM satellite differ from those of the original Region 2 Plans. The United Kingdom, on behalf of Gibraltar, has submitted the relevant Appendix 4 information to modify the Region 2 Plans to include 105.5° W.L. frequency assignments reflecting the parameters of that satellite. Because certain systems are identified as "affected" according to the ITU rules, international coordination of the SES AMERICOM satellite is proceeding.

[106] *See* SES AMERICOM Petition at 12-21; SES AMERICOM Consolidated Reply at 33-42; 45-51.

Furthermore, as SES AMERICOM has demonstrated, there is no reason why the Commission should delay grant of the SES AMERICOM Petition pending coordination. There is ample precedent for Commission grant of authority *subject to* completion of coordination. As the Commission recently stated:

> The Commission has held that it is not necessary to complete international coordination before a satellite system can be authorized to provide service in the United States. [footnote omitted] It is sufficient for purposes of the *DISCO II* framework that coordination has been initiated. . . .[107]

The SES AMERICOM Petition therefore is fully ripe for consideration, and the Commission should act expeditiously to grant this Petition.

---

[107] Loral Spacecom Corporation, *Order*, DA 03-2624 (Aug. 8, 2003), ¶ 15.

VI. CONCLUSION

For the above reasons, the Commission should reject the DIRECTV Petition for Rulemaking, and continue to adhere to the Appendix 30/30A procedures for modification of the BSS Plans. As the Commission has already held, no other technical rules are required to protect existing U.S. systems, while reserving options for future entrants.

Furthermore, SES AMERICOM's proposal to offer satellite capacity for third-party direct-to-home services via a DBS satellite at 105.5° W.L. complies with all of the Commission's procedural and substantive requirements for entry by a foreign-licensed satellite, and is in the public interest. Accordingly, the Commission should act expeditiously to grant this Petition.

Respectfully Submitted,

By: /s/ Phillip L. Spector
Phillip L. Spector
Diane C. Gaylor
Paul, Weiss, Rifkind, Wharton
& Garrison LLP
1615 L Street, NW, Suite 1300
Washington, DC 20036
Telephone: (202) 223-7300
Facsimile: (202) 223-7420

Attorneys for SES AMERICOM, Inc.

Scott Tollefsen
Nancy J. Eskenazi
Office of General Counsel
SES AMERICOM, Inc.
4 Research Way
Princeton, NJ 08540
Telephone: (609) 987-4187
Facsimile: (609) 987-4233
January 23, 2004