

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
Policies and Rules for the
Direct Broadcast Satellite Service
IB Docket No. 98-21

REPORT AND ORDER

Adopted: April 8, 2002

Released: June 13, 2002

By the Commission: Commissioner Copps approving in part, dissenting in part, and issuing a statement;
Commissioners Martin and Abernathy issuing a joint statement.

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I. INTRODUCTION

1. By this Report and Order, we revise our rules and policies governing the Direct Broadcast Satellite ("DBS") service. These changes will streamline the regulation of this rapidly growing and changing service and will help promote fair and increased competition in the multi-channel video programming distribution ("MVPD") market. Increased competition will benefit the public by maximizing consumer choice. Moreover, the rules adopted today promote efficient and expeditious use of spectrum and orbital resources while preserving maximum flexibility for DBS operators. In addition, it

1 DBS is the acronym used in the United States to describe the domestic implementation of the satellite service known internationally as the broadcasting satellite service ("BSS"), that is subject to the International Radio Regulations BSS and feeder-link Plans contained in Appendices 30 and 30A.

is in the public interest to revisit and revise the rules pertaining to DBS in order to facilitate better quality of service to the public. The current rules in Part 100, for the most part, were adopted almost 20 years ago when DBS was envisioned to be essentially a broadcast-type service.² Since that time, the service has instead grown into a robust and successful segment of the satellite industry with programming services provided on a subscription basis. The service rules should now be revised to comport with the way that DBS actually operates. This *Report and Order* modifies DBS regulation to more closely reflect the regulation of other satellite services, moves the rules for DBS to Part 25 and eliminates Part 100.

2. In a *Notice of Proposed Rulemaking*, adopted in February 1998,³ the Commission proposed to consolidate, where possible, the DBS services rules with the rules for other satellite services⁴ and eliminate separate, DBS-specific rules.⁵ Currently, these separate rules governing DBS are contained in Part 100 of the Commission's rules.⁶ Twenty-two parties filed comments in response to the *Notice* and ten parties filed reply comments.⁷ In addition, in December 2000, the Commission released a *Public Notice* requesting comment on the issue of allowing more non-conforming uses of DBS spectrum⁸ and several comments were filed in response.⁹ The Commission also received numerous *ex parte* submissions on several issues raised in the *Notice*.¹⁰ In this *Report and Order*, we adopt many of the proposals in the *Notice* and adopt other proposals with modifications. Our revisions will simplify the procedures applicable to DBS, eliminate unnecessary filing requirements, and harmonize the DBS licensing process with that of other satellite services. For example, we eliminate the DBS-specific foreign ownership limits of Section 100.11¹¹ of the Commission's rules because it duplicates the statutory foreign ownership provision of Section 310(b) of the Communications Act. We also clarify our geographic service rules to enhance the delivery of DBS service to the States of Alaska and Hawaii.¹² We update and clarify DBS technical rules, and clarify due diligence rules¹³ for DBS providers. We move the service-specific DBS

² See *Inquiry into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites for the Period Following the 1983 Regional Administrative Radio Conference*, Report and Order, 90 FCC2d 676 (1982) ("1982 DBS Order"), recon. denied, 53 RR2d 1637 (1983) ("1983 DBS Order").

³ See *In re Policies and Rules for the Direct Broadcast Satellite Service*, Notice of Proposed Rulemaking, IB Docket No. 98-21, 13 FCC Rcd 6907 (1998) ("Part 100 Notice" or "Notice").

⁴ See 47 C.F.R. Part 25.

⁵ See 47 C.F.R. Part 100.

⁶ *Id.*

⁷ A list of Commenters is attached as Appendix A.

⁸ See Public Notice, *The Commission Requests Further Comment in Part 100 Rulemaking Proceeding on Non-Conforming Use of Direct Broadcast Satellite Service Spectrum*, IB Docket 98-21, 15 FCC Rcd 24418 (2000) ("DBS Ancillary Uses PN").

⁹ See Appendix A.

¹⁰ *Id.* See generally *Notice*.

¹¹ 47 C.F.R. § 100.11. Section 310(b) of the Communications Act already limits the foreign ownership of DBS licenses that operate as broadcasters or common carriers. 47 U.S.C. § 310(b).

¹² See new § 25.148(c).

¹³ See new § 25.148(b).

auction rules to Part 25 and defer to the Commission's general competitive bidding rules. Finally, we do not adopt any specific DBS ownership restrictions, but will continue to analyze DBS/DBS ownership issues in the context of assignment and transfer applications on a case-by-case basis.

II. BACKGROUND

3. Satellite-to-home delivered video services are provided in two separate sets of frequency bands, each subject to a different regulatory framework. Direct-to-Home ("DTH") satellite service is provided in bands internationally allocated to the fixed satellite service ("FSS") using FSS satellites.¹⁴ The FSS rules, including those applicable to satellites providing DTH service, are in Part 25 of the rules. DBS operates in the 12.2-12.7 GHz frequency bands (space-to-earth), allocated for the Broadcasting Satellite Service ("BSS").¹⁵

4. As described in the *Notice*, DTH service originated in the 1970's for the reception of video programming transmitted via satellite.¹⁶ DTH satellite antenna vendors were generally independent distributors that were neither satellite operators nor program producers, and DTH satellite antenna users received both unscrambled, free-to-air programming and scrambled subscription services.¹⁷ First-generation DTH satellites operated in C-band frequencies at low power, generally needed seven to ten feet in diameter receiving antennas in order to receive the signals being transmitted.¹⁸ Although some consumers continue to receive C-band programming, DTH providers also offer service via FSS satellites operating in the Ku-band with antennas approximately one meter in diameter,¹⁹ and planned Ka-band²⁰ satellite systems anticipate using antenna diameters on the order of 65 cm.²¹ Typically, FSS satellite operators lease transponder capacity to programming entities that in turn provide DTH service to customers. The programming entity does not need a license to provide these services. Rather, the license rests with the space station operator and the operator of the transmitting earth station used to uplink programming to the space station.

¹⁴ *Notice* at ¶¶ 4-5.

¹⁵ *Notice* at ¶ 6.

¹⁶ *Notice* at ¶ 4. See *Implementation of Section 19 of the 1992 Cable Act ("Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming")*, First Report, CS Dkt. No. 94-48, 9 FCC Rcd 7442 (1994) ("1994 Report") at ¶ 71.

¹⁷ DTH satellite antenna use grew rapidly in the late 1980's and early 1990's, especially in rural areas with no cable access.

¹⁸ The conventional C-band refers to frequencies in the 3700-4200 MHz and 5925-6425 MHz frequency bands.

¹⁹ The term conventional FSS Ku-band generally refers to the 11.7 -12.2 GHz and 14.0-14.5 GHz bands. The extended Ku-band frequencies generally refer to the 13.75-14.0 and 10.95-11.2 and/or 11.45-11.7 GHz bands.

²⁰ The term Ka-band generally refers to the space-to-earth (downlink) frequencies at 17.7-20.2 GHz and the corresponding earth-to-space (uplink) frequencies at 27.5-30.0 GHz.

²¹ See, e.g., Application of Astrolink International LLC for Authority to Construct, Launch and Operate a Ka-band Satellite System in the Fixed-Satellite Service, File No. 182 through 186-SAT-P/LA-95 & SAT-MOD-19971222-00200, filed September 1995.

5. The Commission has traditionally regulated the DBS service differently than other satellite services.²² When the DBS service rules were adopted in 1982, the Commission envisioned that DBS would be primarily a broadcast service. However, it left open the possibility that a DBS licensee could provide service on a subscription or common carrier basis.²³ This policy gave DBS providers the choice of being regulated as broadcasters, common carriers, or non-broadcast, non-common carriers. To date, all DBS licensees have chosen to offer subscription service on a non-broadcast, non-common carrier basis.²⁴

6. In addition to domestic regulation, DBS is governed by international regulations administered by the International Telecommunication Union ("ITU").²⁵ The ITU rules apportion spectrum and orbit locations for the BSS in various geographic regions in certain planned frequency bands²⁶ on a global basis among all nations through agreements reached at Regional and World Radiocommunication Conferences.²⁷ This differs from the process in most fixed-satellite service ("FSS") bands where orbital locations are selected by administrations on a first-come, first-served basis, subject to resolving interference issues through satellite coordinations.²⁸ In the early 1980's, ITU members reached agreement on assigning BSS spectrum at specific orbit locations among the ITU's Region 2 (North and South America) member countries. Under the terms of the Region 2 BSS and feeder-link Plans,²⁹ the United

²² Initially, the Commission assigned responsibility for regulating DBS to its Mass Media Bureau, along with other broadcast services. In 1994, when the Commission created the International Bureau, it granted the Bureau authority over all satellite services, including DBS. 47 C.F.R. § 0.51. *See Amendment of Parts 0, 1, 25, 43, 64 and 73 of the Commission's Rules to Reflect a Reorganization Establishing the International Bureau*, Order, 9 FCC Rcd 7050 (1994).

²³ *Notice at ¶ 5. 1982 DBS Order at ¶ 84.*

²⁴ The Commission has concluded that subscription video service is neither broadcast nor common carrier. *In re Subscription Video Services*, Report and Order, 2 FCC Rcd 1001 (1987), *aff'd sub nom. National Association for Better Broadcasting v. FCC*, 849 F.2d 665 (D.C. Cir. 1988), on reconsideration, Memorandum Order and Opinion, 4 FCC Rcd 4948 (1989) ("*Subscription Video Order*"). *See also In re Application of MCI Telecommunications Corporation, Application for Authority to Construct, Launch and Operate a Direct Broadcast Satellite System at 110° W.L.*, 14 FCC Rcd 11077 (1999).

²⁵ The International Telecommunication Union ("ITU") is a specialized agency of the United Nations within which governments and the private sector coordinate global telecom networks and services.

²⁶ The provisions of Appendices 30 and 30A of the International Radio Regulations are applicable to the BSS in the frequency bands 11.7-12.2 GHz (Region 3), 11.7-12.5 GHz (Region 1) and 12.2-12.7 GHz (Region 2), and to their associated feeder links in the bands 14.5-14.8 GHz (Regions 1 and 3) and 17.3-17.8 GHz (Region 2). Other BSS allocations are not subject to the provisions of these Plans.

²⁷ *Id.* *See also Notice at ¶ 6.*

²⁸ *Id.*

²⁹ The Regional Administrative Radio Conference in 1983 ("RARC-83") developed and adopted the Region 2 BSS and feeder-link Plans. It was not until 1985, at the World Administrative Radio Conference ("WARC Orb-85"), that the Region 2 Plans were adopted internationally worldwide and became a part of the ITU's Radio Regulations. The Regions 1 (Europe and Africa) and 3 (Asia-Pacific) BSS Plan became a part of the ITU Radio Regulations in 1977 at the World Broadcasting-Satellite Administrative Radio Conference ("WARC-77"). The Regions 1 and 3 feeder-link Plan became a part of the ITU Radio Regulations in 1988 at the World Administrative Radio Conference ("WARC Orb-88").

States is assigned eight orbit locations for providing broadcasting-satellite service to the United States.³⁰ Three of these orbit locations can provide coverage of the 48 contiguous United States ("CONUS").³¹ Each of these orbit locations is capable of providing 32 analog channels, each using 24 MHz of bandwidth.³² U.S. DBS orbit assignments are separated by at least nine degrees, whereas U.S. C-, Ku- and Ka-band FSS assignments may be separated by as little as two degrees.³³

7. In 1982, the Commission established "interim" DBS service rules in Part 100 of its regulations³⁴ and began accepting applications for authority to construct, launch, and operate DBS satellite systems.³⁵ The Commission did not assign all 32 channels at each orbit location to a single licensee in its initial licensing rounds. Instead, it assigned from three to ten separate channels to several different licensees at the same orbit location.³⁶ In March 1994, Primestar, at that time a DTH-FSS provider, launched its system.³⁷ Shortly after, in June 1994, United States Satellite Broadcasting Company, Inc. ("USSB") and DIRECTV launched service.³⁸ In March 1996, EchoStar launched its first DBS satellite.³⁹

8. In 1995, the Commission decided to award unassigned DBS channels by means of a competitive bidding process or auction.⁴⁰ In the *DBS Auction Order*, the Commission also eliminated the

³⁰ See Appendix 30 of the ITU's Radio Regulations. The eight U.S. orbital positions, proceeding from east to west (all West Longitude), are 61.5°, 101°, 110°, 119°, 148°, 157°, 166°, and 175°.

³¹ The term "CONUS" refers to orbital locations that can provide coverage of the 48 contiguous United States.

³² Digital compression enables operators to carry multiple video-programming services per analog DBS channel. Current technology permits at least ten digital channels per analog DBS channel and anticipated software advances are expected to further expand capacity. See, e.g., www.lyngsat.com/dtv101.shtml (visited on April 30, 2002). For certain DIRECTV satellites, a total of 328 digital channels (9 clear and 319 encoded) are available per 32 analog channels. This results in a compression ratio of slightly greater than 10:1. Similarly, EchoStar 5 at 110° W.L. uses 29 DBS channels to produce 297 digital channels. See www.lyngsat.com/dtv101.shtml (visited on April 30, 2002).

³³ The greater orbital spacing used in the DBS service allows the use of smaller earth station receiving antennas than those generally employed for C- and Ku-band services. Earth station antennas with a diameter of 45 cm (18 inches) are commonly used in the DBS service, whereas, earth station antennas employed in the Ku-band DTH-FSS are generally on the order of 90 cm (36 inches). Ku-band Earth stations with diameters under 1.2 meters are not two-degree compliant unless coordinated with other operators.

³⁴ 1982 DBS Order at ¶ 1.

³⁵ See *In the Matter of Applications of CBS, Inc., Direct Broadcasting Satellite Corporation, Focus Broadcast Satellite Company, Graphic Scanning Corporation, RCA American Communications, Inc., United States Satellite Broadcasting Company, Inc., Video Satellite Systems, Inc., Western Union Telegraph Company for Authority to Establish Interim Direct Broadcast Satellite Systems Order*, 92 FCC2d 64 (1982); see also *Processing Procedures Regarding the Direct Broadcast Satellite Service Order*, 95 FCC Rcd 250 (1983) ("CBS Order").

³⁶ See *CBS Order*.

³⁷ See *DBS Investor*, The Carmel Group, Vol. 4, No. 6 (June 1999).

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ See *Revision of Rules and Policies for the Direct Broadcast Satellite Service*, Report and Order, 11 FCC Rcd 9712 (1995) ("DBS Auction Order" or "1995 DBS Auction Order") at ¶ 165.

east/west channel pairing method of assignment adopted in 1989⁴¹ and created DBS geographic service requirements in order to stimulate service to Alaska and Hawaii.⁴² In 1996, the Commission conducted its first DBS auction for 28 channels at the 110° W.L. and 24 channels at the 148° W.L. orbit locations⁴³

9. DBS service has enjoyed significant growth since it was first introduced and now reaches well over seventeen million subscribers in the United States.⁴⁴ DBS continues to represent the single largest competitor to cable in the MVPD market.⁴⁵ Indeed, it is estimated that two out of three new subscribers in the MVPD market choose DBS as their video service.⁴⁶ In June 2001, DBS subscribers comprised more than 18 percent of the overall MVPD market.⁴⁷ DBS is the principal subscription competitor to cable television service with 16,070,000 subscribers as of June 30, 2001, a gain of over three million subscribers, and an increase of over 19 percent since June 2000.⁴⁸

10. The significant increase in DBS subscribership has been in large part attributed to the authority granted to DBS providers in late 1999 to offer “local-into-local” service. In 1999, Congress passed the Satellite Home Viewer Improvement Act (“SHVIA”), which amended the copyright act to allow satellite service providers to retransmit the signals of local and network affiliate television stations to subscribers

⁴¹ The Commission had adopted a rule in 1989 that required channels at the eight orbital locations to be paired, with each licensee being assigned an equivalent number of channels at an eastern orbital location and at a western orbital location. This rule was adopted in order to assure service to the entire United States from at least 128 channels at a time when full-CONUS service was untested. The four eastern positions are: 61.5° W.L., 101° W.L., 110° W.L., and 119° W.L. The four western positions are: 148° W.L., 157° W.L., 166° W.L., and 175° W.L. For example, Direct Broadcasting Satellite Corporation (“DBSC”), was assigned 11 channels at each of the 61.5° W.L. and 175° W.L. locations. R/L DBS was assigned 11 channels at each of the 61.5° W.L. and 166° W.L. locations. The *DBS Auction Order* eliminated this policy. *DBS Auction Order* at ¶ 124.

⁴² See 47 C.F.R. § 100.53. The new geographic service rules conditioned all DBS licenses awarded after January 19, 1996 on providing service to Alaska and Hawaii, “where such service is technically feasible.”

⁴³ The channels at the 110° W.L. and 148° W.L. locations became available when the previous assignee, Advanced Communications Corp., failed to meet its due diligence obligations for use of its assigned channels at those locations. *Advanced Communications Corp.*, Memorandum, Opinion, and Order, 10 FCC Rcd. 13337, 13340 (1995), *aff’d* Memorandum, Opinion, and Order, 11 FCC Rcd 3399 (1995), *aff’d*, *Advanced Communications Corp. v. FCC*, 84 F.3d 1452 (D.C. Cir. 1996), *cert. denied*, 117 S.Ct. 718 (1997). MCI Telecommunications, Corp. won the auction for the channels at the 110° W.L. location by bidding \$682.5 million, and EchoStar Satellite Corp. won the auction for the channels at 148° W.L. by bidding \$52.295 million.

⁴⁴ See also <http://www.sbca.com>. The Satellite Broadcasting & Communications Association (“SBCA”) represents that over 17 million American households currently subscribe to satellite television, which represents over 44 million viewers nationwide (visited October 16, 2001). Current subscriber numbers can be found at www.skyreport.com/skyreport.com/dth-us.htm. See also *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 01-129, Eight Annual Report, 17 FCC Rcd 1244 (2002) (“2001 Cable Competition Report”).

⁴⁵ See *2001 Cable Competition Report* at ¶ 56.

⁴⁶ See *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 01-132, Seventh Annual Report, FCC 01-1 (rel. January 8, 2001).

⁴⁷ *2001 Cable Competition Report* at ¶ 57.

⁴⁸ *Id.*

in their local markets.⁴⁹ The SHVIA imposes certain conditions on DBS providers in return for the right to offer local broadcast signals including certain mandatory carriage requirements.⁵⁰

11. As of October 2001, DIRECTV offers the local affiliates of ABC, CBS, NBC, and FOX in 41 markets.⁵¹ DIRECTV also provides a national PBS feed and plans to offer local affiliates in additional markets. According to DIRECTV, overall subscriber levels have increased by 20 percent due to local broadcasting channel service, and that 47 percent of its customers to whom it is available take a local channel package.⁵² Similarly, EchoStar transmits a local network package to its subscribers in 36 markets and offers the national PBS feed.⁵³

⁴⁹ The Commission was tasked with completing a number a rulemakings to implement the legislation. Satellite Home Viewer Improvement Act was enacted as Title I of the Intellectual Property and Communications Omnibus Reform Act of 1999 (“IPACORA”) (relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.), Pub.L. No. 106-113, 113 Stat. 1501A-526 to 1501A-545 (Nov. 2, 1999). As required by SHVIA, the Commission has adopted rules for satellite companies with regard to mandatory carriage of broadcast signals, retransmission consent, and program exclusivity that closely parallel the requirements for cable service. *See Implementation of the Satellite Home Viewer Improvement Act 1999: Broadcast Signal Carriage Issues, Retransmission Consent Issues*, CS Docket Nos. 00-96, 99-363, Report and Order, 16 FCC Rcd 1918 (2000) (“*SHVIA Signal Carriage Order*”); *Technical Standards for Determining Eligibility For Satellite-Delivered Network Signals Pursuant To the Satellite Home Viewer Improvement Act*, ET Docket No. 00-90, Report, FCC 00-416 (rel. Nov. 29, 2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999: Application of Network Non-Duplication, Syndicated Exclusivity, and Sports Blackout Rules To Satellite Retransmissions of Broadcast Signals*, 15 FCC Rcd 21688 (2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999, Enforcement Procedures for Retransmission Consent Violations*, Order, 15 FCC Rcd 2522 (2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999, Retransmission Consent Issues: Good Faith Negotiation and Exclusivity*, CS Docket No. 99-363, First Report and Order, 15 FCC Rcd 5445 (2000).

⁵⁰ Although the *Notice* at ¶ 64 requested comment on the effect of the 1988 Satellite Home Viewer Act on the local geographic market, because that legislation has been substantially changed by SHVIA, enacted on November 29, 1999, and because we received no comments on this issue, we do not need to discuss it further. Under SHVIA, DBS operators can offer a programming package more comparable to and competitive with the services offered by cable operators.

⁵¹ *See 2001 Cable Competition Report* at ¶ 59. These markets are: Birmingham, Alabama; Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Baltimore, Maryland; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Greensboro, Raleigh/Durham, North Carolina; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville, South Carolina; Memphis, Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; Seattle/Tacoma, Washington; Columbus, Ohio; Austin, Texas; West Palm Beach, Florida; and Milwaukee, Wisconsin. *See SHVIA Signal Carriage Order* at Appendices D and E ; *see also* <http://www.directv.com> (visited October 15, 2001).

⁵² *See 2001 Cable Competition Report* at ¶ 59.

⁵³ *See 2001 Cable Competition Report* at ¶ 59. EchoStar’s DISH Network currently offers local channels in 36 metro areas, including: Birmingham, Alabama, Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Raleigh/Durham, North Carolina; Albuquerque, New Mexico; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville-Spartanburg, (continued....)

12. DIRECTV is offering service from three full-CONUS orbit locations, 101° W.L., 110° W.L. and 119° W.L. These full-CONUS orbit locations can provide coverage of the 48 contiguous states of the United States and Alaska and Hawaii. EchoStar (marketed as DISH network) offers competing service from the 110° W.L., 119° W.L. and 61.5° W.L. orbit locations. General Motors, which owns DIRECTV through its Hughes Electronics subsidiary, agreed to spin-off Hughes from General Motors and to merge Hughes with EchoStar.⁵⁴ This transaction is pending before the Commission and the United States Department of Justice.⁵⁵ Dominion Video Services (marketed as SkyAngel) provides service from the 61.5 W.L. orbital location using a satellite operated by EchoStar.⁵⁶ Sky Angel offers 19 video and 16 radio channels to its customers. R/L DBS is required to launch and begin providing service to customers by December 2003.⁵⁷ In addition, Pegasus Communications Corporation operates Pegasus Satellite Television, an independent distributor of DIRECTV.⁵⁸

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South Carolina; Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; Austin, Texas; and Seattle/Tacoma, Washington. See *SHVIA Signal Carriage Order*. See also <http://www.dishnetwork.com/> and <http://www.skyreport.com/skyreport/local.htm> (visited October 15, 2001).

⁵⁴ General Motors, *GM's Hughes Electronics To Merge With EchoStar Communications* (press release), October 29, 2001.

⁵⁵ See *EchoStar Communications Corporation, General Motors Corporation, Hughes Electronics Corporation, Transferors, and EchoStar Communications Corporation, Transferee, Consolidated Application for Authority to Transfer Control*, Dec. 3, 2001. See also *EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation Seek FCC Consent for a Proposed Transfer of Control*, CS Docket No. 01-348, Public Notice, DA 01-3005 (rel. Dec. 21, 2001).

⁵⁶ Dominion leases 8 transponders on EchoStar III at 61.5° W.L. The Commission originally issued Dominion its DBS construction permit in 1982. Seventeen years later, on May 17, 1999, the Commission granted Dominion Video Satellite, Inc. authority to commence operation of a DBS service using an EchoStar satellite currently in orbit. See *Dominion Video Satellite, Inc. Application for Minor Modification of Authority to Construct and Launch and to Continue Construction and Launch of Planned Satellite at 61.5° W.L.* File No. 12-SAT-ML-97, IBFS File No. SAT-MOD-19961108-00132; *Application for Additional Time to Construct and Launch Direct Broadcast Satellites*, File No. 13-SAT-MP/ML-97, IBFS File No. SAT-MOD-19961108-00133; *Application for Launch Authority*, File No. 108-SAT-LA-97, IBFS File No. SAT- L/A-19970814-00074, Order, 14 FCC Rcd 8182 (1999)(“*Dominion Order*”). See also <http://www.skyangel.com>. Dominion expects to launch its own satellite sometime in 2003.

⁵⁷ On December 28, 2000, the Commission granted a 36-month extension of time to R/L DBS to implement its system at 61.5° W.L. *Petition of R/L DBS Company, L.L.C. For Extension of its Direct Broadcast Satellite Construction Permit*, Memorandum Opinion and Order, 16 FCC Rcd 9 (2000)(“*R/L DBS Order*”).

⁵⁸ See Bank of America Securities, *Satellite Communications Industry Overview, First Quarter 2001, The Bus Tour*, (March 2001), at p. 13. Pegasus is recognized as a major force in the DBS industry.

13. The DBS industry has experienced significant consolidation in the last several years.⁵⁹ The chart below reflects the current DBS channel and orbital assignments.⁶⁰ A total of 84 channels at five different locations are unassigned. The darkened box represents the three full-CONUS locations.

DBS Channel Assignments By Orbital Location

| PERMITTEES/ LICENSEES | TOTAL | 175° | 166° | 157° | 148° | 119° | 110° | 101° | 61.5° |
|--------------------------|-------|-----------------|------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| DIRECTV | 46 | | | | | 11 [‡] | 3 [‡] | 32 [‡] | |
| EchoStar | 85 | | | | 24 [‡] | 21 [‡] | 29 [‡] | | 11 [‡] |
| R/L DBS | 11 | | | | | | | | 11 ^{*‡} |
| Dominion | 8 | | | | | | | | 8 [‡] |
| Unassigned | 150 | 32 [*] | 32 | 32 [#] | 8 [*] | 0 | 0 | 0 | 2 [*] |

[‡] operational

^{*} used by EchoStar pursuant to a grant of Special Temporary Authority

[‡] Dominion leases eight transponders on EchoStar III. EchoStar holds a license for 11 of the 32 DBS frequencies at 61.5° W.L.. Concurrent with the Dominion lease, EchoStar is subleasing six of the transponders back from Dominion, subject to the control of Dominion as the licensee.⁶¹ Although Dominion's transponders are currently located on an EchoStar satellite, Sky Angel

⁵⁹ See *In the Matter of United States Satellite Broadcasting Co., Inc., Transferor, and DIRECTV Enterprises, Inc., Transferee, for Consent to Transfer Control of the USSB II Authorization to Operate a Direct Broadcast Satellite System Using Five Channels at the 101° W.L. Orbital Location; Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using Three Channels at 110° W.L. Orbital Location; and the Related Earth Registration*, Memorandum Opinion and Order, 14 FCC Rcd 4585 (Int'l Bur. 1999) ("USSB/DIRECTV Order"), where the International Bureau authorized the transfer of five DBS channels at 101° W.L. and three channels at 110° W.L. See also *In re Application of MCI Telecommunications Corporation, and EchoStar 110° Corporation for Consent to Assignment of Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using 28 Channels at the 110° W.L. Orbital Location*, 14 FCC Rcd 11077 (Int'l Bur. 1999) ("MCI Application for Review") where the Commission denied an Application for Review of an International Bureau Order granting consent to assign MCI's authorization to use 28 channels at 110° to EchoStar. See also *Dominion Order* where the International Bureau granted Dominion authority to commence operation of a DBS service on its assigned channels (25-32) at the 61.5° W.L. using EchoStar 3 which is operating at that location. See also *In re TCI Satellite Entertainment, Inc. and Primestar, Inc.*, Memorandum Opinion and Order, 14 FCC Rcd 1946 (Int'l Bur. 1999) ("Primestar Order") where the International Bureau granted Tempo authorization to assign 11 channels at 119° W.L. to DIRECTV.

⁶⁰ FSS satellites may be authorized to provide a variety of different satellite services. Because there is no FSS channelization plan, there is no comparable chart for DTH-FSS.

⁶¹ See <http://www.skyangel.com/HTML%20Site/Body%20Pages/FAQ/faq.htm>.

subscribers must use a separate antenna to receive DISH Network programming.⁶²

† See *In the Matter of EchoStar Satellite Corporation, Directstat Corporation, Direct Broadcasting Satellite Corporation Consolidated Request for Additional Time to Commence Operation*, Memorandum Opinion and Order, DA 02-1164 (released May 16, 2002). Denying EchoStar's request for an extension of its due diligence requirements at the 175° W.L. orbit location.

‡ See *Application of R/L DBS Company, LLC for Minor Modification to Direct Broadcast Authorization for Issuance of Authority to Launch, and for Authority to Operate Rainbow 1* (filed April 9, 2002) requesting authority to launch and operate over 11 channels at 61.5° W.L.

See Letter from Pantelis Michalopoulos, Counsel for EchoStar Satellite Corporation to Marlene Dortch, Secretary, Federal Communications Commission (dated May 28, 2002) requesting the odd-numbered channels 1-21 (11 channels) at 157° W.L. as the channel assignment for its western DBS permit. See also *In the Matter of EchoStar Corporation for Assignment of DBS Orbital Positions and Channels*, DA 02-1163 (released May 16, 2002) finding that EchoStar has satisfied the first due diligence requirements and granting EchoStar's request for channel assignment pending further clarification.

III. DISCUSSION

A. Incorporation of DBS Service Rules into Part 25

14. The *Notice* proposed to consolidate all satellite service regulations into one section of the rules to "eliminate inconsistencies, reduce confusion and uncertainty for users, lessen regulatory burdens on licensees, and simplify the development of advanced services."⁶³ Consolidation will allow DBS applicants, permittees, and licensees to use the same application forms and procedures as other satellite service applicants.⁶⁴ Using the same application form for all satellite services will harmonize the DBS licensing process with that of other satellite services. This uniform approach is especially appropriate because applications are combining DBS-band satellite services with satellite services in other frequency bands at the same or adjacent orbit locations (*i.e.*, hybrid DBS, Ku-band FSS, and Ka-band systems).⁶⁵ As we stated in the *Notice*, by incorporating the satellite service rules into one part -- Part 25 of the Commission's rules -- we hope to facilitate innovative services by simplifying and clarifying the process for complex multi-band, multi-service applications.⁶⁶

15. Commenters overwhelmingly support the proposal to consolidate the DBS rules with other satellite service rules in Part 25.⁶⁷ They assert that consolidation will reduce regulatory costs and confusion by eliminating uncertainty over which procedural rules apply. The commenters also state that

⁶² See *2001 Cable Competition Report* at ¶ 57. Sky Angel subscribers who wish to receive the EchoStar (DISH Network) must subscribe separately to each service. The Dominion/EchoStar satellite sharing arrangement is technical in nature and not a joint venture or merger.

⁶³ *Notice* at ¶ 13.

⁶⁴ FCC Form 312 is used to apply for all satellite earth and space station facilities authorizations. DBS applicants will now use this Form 312 to apply for DBS system authorizations.

⁶⁵ See, e.g., *Application of Hughes Communications Galaxy, Inc., for Authority to Construct, Launch, and Operate Galaxy/Spaceway a Global System of Geostationary Ka-band Fixed and Ku-band Broadcast Communications Satellite*, File Nos. 174-SAT-P/LA-95, 181-SAT-P/LA-95 (filed September 29, 1995).

⁶⁶ *Notice* at ¶ 13.

⁶⁷ Comments of PanAmSat at 1; Comments of primest at 3; Comments of Tempo at 1; Reply Comments of Coalition for Satellite Competition ("CSC") at 1; Reply Comments of EchoStar at 2-3; Reply Comments of Loral Space and Communications ("Loral") at 1; Reply Comments of PanAmSat at 1; Reply Comments of primest at 1; Reply Comments of Tempo at 5; Reply Comments of United States Satellite Broadcasting ("USSB") at 1. 47 C.F.R. §100.1, *et. seq.* and 47 C.F.R. § 25.101, *et. seq.*, respectively.

reducing administrative burdens facilitates delivery of service.⁶⁸ The CSC, however, while supporting consolidation, suggests that we should distinguish DBS rules from other satellite service rules, where appropriate.⁶⁹

16. We will adopt our proposal to consolidate Part 100 with Part 25. This action should eliminate inconsistencies in the Commission's rules governing satellites, reduce confusion and uncertainty for DBS and DTH applicants, and lessen regulatory burdens. We will, as explained below, however, retain some DBS specific rules that reflect distinctions between DBS and other satellite services. We preserve certain specific Part 100 rules (*i.e.* license terms, due diligence and geographic service requirements, competitive bidding, and technical requirements) in Part 25 because DBS is a unique satellite service in some respects.⁷⁰ Therefore, we add a new section to Part 25 entitled, "Licensing Provisions for the Direct Broadcast Satellite Service."⁷¹ This new Section 25.148, preserves certain Part 100 rules that apply only to the DBS service and that are not covered under existing Part 25 rules. We also move other Part 100 rules to Part 25, including a rule setting forth the definition of DBS and other rules addressing the technical requirements of the DBS service. The following chart identifies each former Part 100 rule and indicates the specific rule changes that we adopt today.

⁶⁸ Reply Comments of Tempo at 5.

⁶⁹ Reply Comments of CSC at 1.

⁷⁰ These DBS-specific rules include definitions (Section 100.3), license term (Section 100.17), due diligence requirements (Section 100.19), technical requirements (Section 100.21), and geographic service requirements (Section 100.53).

⁷¹ See new § 25.148.

Incorporating DBS Service Rules into Part 25

| Part 100 Section | Commission Action | Existing Part 25 Section |
|--|---|--|
| Section 100.1 (Basis and purpose) | eliminate | covered by Section 303(v) of the Communications Act |
| Section 100.3 (Definitions) | amend and move | Section 25.201 |
| Section 100.5 (Public Interest Obligations) | amend and move | new Subpart J-Public Interest Obligations new Section 25.701, <i>et seq.</i> |
| Section 100.11 (Eligibility) | eliminate | covered by Section 310(b) of the Communications Act |
| Section 100.13 (Application) | eliminate | covered by Part 25, Subpart B-Applications and Licenses |
| Section 100.15 (Licensing) | eliminate | covered by Part 25, Subpart B-Applications and Licenses |
| Section 100.17 (License term) | amend and move | new Section 25.148(a) |
| Section 100.19 (Due diligence) | move | new Section 25.148(b) |
| Section 100.21 (Technical) | amend and move | new Section 25.148(f) and Section 25.215 |
| Section 100.51 (EEO) | move | new Section 25.601 |
| 100.53 (Geographic service) | amend and move | new Section 25.148(c) |
| 100.71 (Competitive bidding) | move | new Section 25.148(d) |
| 100.77 (Long-form applications) | amend and move | new Section 25.148(e) |
| Sections 100.72-.76, 100.78-100.79 (Competitive bidding system design) | Eliminated in WTB Order (<i>see infra.</i>) | covered by auction rules in Section 1.2101, <i>et. seq.</i> |
| Section 100.80 (Transfers) | eliminate | covered by Sections 1.2111 and 25.119 |
| Part 25 Cross-reference to Part 100 for DBS | eliminate | eliminate Section 25.109(b)(DBS cross-reference) |

17. *Basis and purpose § 100.1.* Section 303(v) of the Communications Act gives the Commission exclusive jurisdiction over the regulation of DTH satellite services, including DBS.⁷² Therefore, the *Notice* proposed to eliminate Section 100.1 of the Commission's rules, which simply recites this statutory authority. We received no comment on this issue and we hereby eliminate Section 100.1 of the Commission's rules because it is unnecessary.

18. *Definitions § 100.3.* In the *Notice*, the Commission proposed to move the definition of DBS service, which is identical to the definition of BSS in the ITU Radio Regulations, from Section 100.3 of its rules to a new rule section in Part 25, Section 25.201. and to add reference to the specific frequency bands used by the DBS service, in order to distinguish the DBS-specific rules from the rules for other satellite services in Part 25.⁷³ The ITU defines the broadcasting-satellite service as a "radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public."⁷⁴ This definition is the same as the definition of DBS service found in Part 100.⁷⁵

19. The CSC and Primestar take opposing views on whether to amend the definition of DBS. The CSC argues that the Commission should adopt the ITU's definition of DBS, based on the type of service provided, and not by the frequencies used. It argues that a functional definition would promote competition, spectrum efficiency, and would be a consistent application of U.S. policy.⁷⁶ By contrast, Primestar states that the definition of DBS should reference the specific frequencies used by the DBS service to avoid confusion regarding the applicability of Part 25 rules to DTH or other BSS services to the DBS service.⁷⁷ PanAmSat suggests that the Commission define the DBS service in terms of territory served.⁷⁸ PanAmSat asks the Commission to clarify that certain of its DBS rules do not apply to entities serving territories solely outside of the United States. PanAmSat asserts that while many DBS rules are appropriately applied across services, others will impose unnecessary regulatory burdens on, and make no sense when applied to, Region 2 BSS systems that do not provide service to the United States, and do not operate from a U.S. DBS orbit location.

20. In *DISCO I*, the Order that revised the policies governing U.S.-licensed satellites, the Commission stated that DBS licensees could use their satellites to provide both domestic and international service without additional approval from the Commission.⁷⁹ In that Order, the Commission

⁷² See 47 U.S.C. § 303(v), which states that the Commission has exclusive jurisdiction to regulate the provision of direct-to-home satellite services. The term "direct-to-home satellite services" is defined as the distribution or broadcasting of programming or services by satellite directly to the subscriber's premises without the use of ground receiving or distribution equipment, except at the subscriber's premises or in the uplink process to the satellite.

⁷³ See *Notice* at ¶ 19 citing § 25.201.

⁷⁴ ITU Radio Regulations, Volume 1, Ch. 1, Article 1, 1.39

⁷⁵ See 47 C.F.R. § 100.13.

⁷⁶ Comments of CSC at 3; Reply Comments of CSC at 2.

⁷⁷ Comments of Primestar at 23.

⁷⁸ See Comments of PanAmSat at 3.

⁷⁹ See *Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems*, Report and Order, 11 FCC Rcd 2429 (1996) ("*DISCO I*") at ¶ 70 (foreign approval required for international operations, consistent with international treatise).

stated that prior to commencing service, licensees must ensure that (a) the technical and operational parameters of the channels have been successfully coordinated, consistent with U.S. treaty requirements; and (b) they comply with the Commission's service rules for DBS channels assigned for U.S. domestic use.⁸⁰ As is the case for other satellite services, U.S. service rules do not apply to service provided by U.S. DBS satellites to other countries. Rather, those services are subject to the rules and policies of the country in which the service is being provided. DBS licensees would be subject to the rules of the country served. Accordingly, we see no reason to modify the definition of DBS as PanAmSat suggests.

21. We will adopt the definition of DBS service proposed in the *Notice*, which references the specific frequencies used and which will continue to distinguish DBS from DTH and other satellite services.⁸¹ This is consistent with the way the Commission defines other satellite services in Part 25.⁸² The Commission specifically created an allocation for DBS at 12.2-12.7 GHz and contemplated that it would be used primarily for direct-to-home video programming.⁸³ In addition, the ITU reached agreement on assigning BSS spectrum at specific orbital locations to administrations throughout the world.⁸⁴ Use of these locations is governed by specific procedures contained in the ITU BSS and feeder-link Plans, and these procedures apply specifically to BSS in the 12 GHz frequency band and to a BSS system's associated feeder links. Consequently, our DBS service rules are frequency-specific and therefore we will include the frequencies in the definition of DBS. On the other hand, FSS frequencies are not subject to the BSS and feeder-link Plans of Appendices 30 and 30A, and can be used for a variety of different services, including DTH. We believe that defining DBS based on both the frequencies and the nature of the service will avoid confusion because there are significant instances where DBS is subject to international regulations different from those applied to the FSS. Therefore, we amend the definition of DBS to include a reference to the frequencies used by the DBS service.⁸⁵

22. *Public Interest Obligation § 100.5.* In 1998, pursuant to the Cable Act of 1992, the Commission adopted public interest obligations for DBS providers. These rules require providers to set aside four percent of their channel capacity for noncommercial programming of an educational or informational nature.⁸⁶ The rules also require compliance with the existing political broadcasting

⁸⁰ *Id.*

⁸¹ *Notice* at ¶ 19. Specifically, we revise Section 25.201 to add the DBS definition we adopt here.

⁸² For example, in Part 25, the Commission defines other satellite services separately, such as the service rules for the non-voice, non-geostationary mobile-satellite service ("Little LEOs"), 47 C.F.R. § 25.142, and the fixed-satellite service in the 20/30 GHz bands ("Ka-band"), 47 C.F.R. § 25.145.

⁸³ *See 1982 DBS Order* at 680. *See also DBS Ancillary Uses PN*, which requests comment on non-conforming uses of DBS spectrum.

⁸⁴ *Notice* at ¶ 6.

⁸⁵ We will modify our definition to include those frequencies.

⁸⁶ On November 19, 1998, the Commission adopted rules implementing Section 25 of the 1992 Cable Act, which requires that DBS providers must reserve four percent of their channel capacity exclusively for use by qualified programmers for noncommercial programming of an educational or informational nature. Channel capacity is determined annually by calculating the average number of channels available for video programming on all satellites licensed to the provider during the previous year. *See Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations*, Report and Order, 13 FCC Rcd 23254 (1998) ("DBS Public Interest Order").

requirements in Sections 312 and 315 of the Communications Act.⁸⁷

23. The term “DBS provider” includes entities licensed pursuant to Part 100 of the Commission’s rules, entities licensed pursuant to Part 25 of the rules to provide direct-to-home fixed satellite service (“DTH-FSS”) in the Ku-band, and non-U.S. licensed satellites providing DBS or DTH-FSS services in the United States.⁸⁸ EchoStar currently offers 19 qualifying channels of public interest programming⁸⁹ and DIRECTV carries nine qualifying noncommercial networks under these rules.⁹⁰

24. Because the public interest obligations were not adopted at the time the *Part 100 Notice* was released, we made no proposals with respect to the rule. As is the case for all Part 100 rules that we are not eliminating, however, we will move the DBS public interest obligation rule in its entirety to Part 25 of the Commission’s rules and make necessary ministerial adjustments.⁹¹ Therefore, the public interest requirements for DBS and DTH in the Ku-band will be codified in Part 25 in a new Subpart J.

25. *Eligibility and Foreign Ownership § 100.11*. The *Notice* proposed moving existing Section 100.11 (which tracks the language of Sections 310(a) and (b) of the Communications Act and applies only to DBS licensees), into Part 25.⁹² The Commission noted that moving Section 100.11 of its rules to Part 25 would not change the foreign ownership rules applicable to the DBS service or create new rules for DTH-FSS.⁹³ Part 25 does not contain specific rules restricting foreign ownership of satellite licenses. Rather, Part 25 licensees are subject to the general statutory limits, to the extent applicable, on foreign ownership in Sections 310(a) and (b) of the Communications Act.⁹⁴

⁸⁷ See 47 U.S.C. §§ 312 and 315.

⁸⁸ *DBS Public Interest Order* at ¶ 10.

⁸⁹ See *2000 Cable Competition Report* at ¶ 81. EchoStar, *DISH Network Satellite Television Adds Five New Public Interest Channels* (press release), Dec. 19, 2000. See also <http://www.echostar.com>.

⁹⁰ *Id.* *DBS Shows Diversity*, *Television Digest*, Sept 4, 2000, at 4. See also <http://www.directv.com>.

⁹¹ See new Part 25, subpart J.

⁹² Section 100.11 states “An authorization for operation of a station in the Direct Broadcast Satellite Service shall not be granted to or held by: (a) Any alien or the representative of any alien; (b) Any foreign government or the representative thereof (c) Any corporation organized under the laws of any foreign government; (d) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country; (e) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representatives thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.” 47 C.F.R. § 100.11.

⁹³ *Notice* at ¶ 20.

⁹⁴ The foreign ownership restriction contained in Section 310(a) applies to all station licenses. 47 U.S.C. § 310(a) (“The station license required under this Act shall not be granted to or held by any foreign government or the representative thereof.”) By contrast, the restrictions contained in Section 310(b) apply only to broadcast, common carrier, aeronautical en route, and aeronautical fixed radio station licenses. 47 U.S.C. § 310(b) (“No broadcast or common carrier or aeronautical en route or aeronautical fixed radio station license shall be granted to or held by (1) an alien or the representative of any alien; (2) any corporation organized under the laws of any foreign government; (3) any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation (continued....)”)

26. In addition, the *Notice* requested comment on whether the Commission should apply the foreign ownership limitations of Section 100.11 to subscription DBS providers.⁹⁵ In its *1986 Subscription Video Order*, the Commission formally reclassified subscription DBS as a "non-broadcast" service.⁹⁶ In a 1996 decision, the International Bureau found, in ruling on MCI's eligibility to be a DBS licensee, that neither Section 310(b) of the Communications Act nor Section 100.11 of the Commission's rules applied to DBS provided on a subscription basis.⁹⁷ The Bureau held that because MCI planned to offer service on a subscription basis (*i.e.*, non-broadcast and non-common carrier), Section 310(b) of the Communications Act did not apply.⁹⁸ With respect to Section 100.11, the Bureau found that it did not apply to subscription DBS, based on the Commission's original intent in adopting the rule.⁹⁹ Alternatively, the Bureau stated that if Section 100.11 is construed to apply to all DBS providers, it was in the public interest to waive the rule.¹⁰⁰

27. Subsequently, in May 1999, the Commission affirmed the International Bureau's decision, and held that the foreign ownership limits in Section 310(b) of the Communications Act did not govern MCI's eligibility to be a licensee providing subscription DBS service because it was neither a broadcaster nor a common carrier.¹⁰¹ In the *1999 MCI Application for Review*, the Commission followed the *1986 Subscription Video Order* and held that Section 310(b) of the Act does not apply to subscription DBS service providers because they are not broadcasters.¹⁰² The Commission did not, however, reach the

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organized under the laws of a foreign country; (4) any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license").

⁹⁵ *Notice* at ¶ 21. See also *MCI Telecommunications Corporation*, 11 FCC Rcd 16275 (Int. Bur. 1996) ("*MCI Bureau Order*"). The *Notice* stated "in the event that the Commission affirms the Bureau's decision in the *MCI Bureau Order*, we seek comment on whether the Commission should modify its DBS eligibility rules such that the foreign ownership limitations currently located in Section 100.11 would apply to subscription DBS providers."

⁹⁶ See *Subscription Video Order*, 2 FCC 2d 1001, 1007 (1987), *aff'd.*, *National Association for Better Broadcasting v. FCC*, 849 F.2d 665 (D.C. Cir. 1988). Recognizing that the *Subscription Video Order* had a bearing on the applicability of Section 310(b) to subscription services, a broadcast DBS provider argued in a petition for reconsideration that it would be at a competitive disadvantage if it were subject to Section 310(b) while others providing subscription video services were not subject to the same provision. *Subscription Video Order Services*, 4 FCC Rcd 4948 (1989) ("*Order on Reconsideration*"). The Commission rejected the petitioner's argument, finding that differences between services may require imposition of different obligations and that choosing to operate as a broadcaster would have certain regulatory consequences. *Id.* at ¶ 6.

⁹⁷ MCI and British Telecommunications plc ("BT"), a British owned company, announced on November 1, 1996, that BT would acquire up to a one hundred percent ownership interest in MCI.

⁹⁸ *MCI Bureau Order* at ¶ 27.

⁹⁹ *MCI Bureau Order* at ¶ 22.

¹⁰⁰ *Id.* at ¶ 28.

¹⁰¹ See *MCI Application for Review* where the Commission also rejected the contention of the National Association of Better Broadcasters ("NABB") that by not applying Section 310(b) to DBS providers offering subscription services it was eliminating all examination of character qualifications for such licensees. See *MCI Application for Review* at ¶¶ 22-25.

¹⁰² *MCI Application for Review* at ¶ 12.

(continued...)

question of whether the Bureau's interpretation of Section 100.11 of the Commission's rules was correct. Rather, the Commission affirmed the Bureau's holding that even if Section 100.11 of the Commission's rules were applicable to MCI's proposal to provide subscription DBS service, a waiver was justified. The Commission deferred to this current proceeding the question of whether Section 100.11 of the Commission's rules should apply to licensees providing subscription DBS service.¹⁰³

28. Commenters generally agree that the foreign ownership limitations in Section 310(b) do not apply to subscription service providers.¹⁰⁴ Most commenters also agree that the International Bureau's *MCI Bureau Order* correctly reasoned that Section 100.11 of the Commission's rules was intended only to codify the restrictions of Section 310 of the Communications Act, which does not limit private foreign ownership of subscription DBS providers.¹⁰⁵ The United Church of Christ and the Consumers Union (collectively "UCC") argue, however, that in the MCI decision the International Bureau erred in removing broadcast ownership and eligibility requirements from subscription DBS.¹⁰⁶ The Commission addressed and rejected UCC's contention in its order affirming the Bureau's Order. Therefore, we do not need to address UCC's arguments here.¹⁰⁷

29. In this Order, we eliminate Section 100.11. When the Commission adopted Part 100 including Section 100.11, it determined to take a limited regulatory approach to DBS. In first proposing rules in 1981, the Commission stated that it was seeking to apply an "open and flexible approach" to DBS to "allow the business judgments of individual applicants to shape the character of the service offered."¹⁰⁸ The Commission stated that it intended to impose on DBS "only those regulatory requirements that [were] expressly mandated by the Communications Act" to afford the DBS service maximum regulatory freedom to develop.¹⁰⁹ When it adopted final rules for DBS in 1982, the Commission reaffirmed its intention to take a flexible regulatory approach and to impose minimal regulation, allowing DBS applicants and licensees the maximum degree of regulatory freedom.¹¹⁰

30. In the early 1980's, the Commission assumed that all DBS providers would be either broadcasters or common carriers, and stated that even if DBS services were offered on a subscription basis, they would "still be classified as broadcast services unless and until the Commission determines

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¹⁰³ See *MCI Application for Review* at ¶ 21.

¹⁰⁴ See, e.g., Comments of Loral at 6; Comments of News Corp. at 8-9; Comments of PanAmSat at 5; Comments of Primestar at 17-18; Comments of USSB at 4.

¹⁰⁵ Comments of Loral at 6.

¹⁰⁶ UCC Comments at 2-3.

¹⁰⁷ *MCI Application for Review* at ¶ 22-25.

¹⁰⁸ See *Inquiry into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites for the Period Following the 1983 Regional Administrative Radio Conference*, Gen. Dkt. No. 80-603, 86 FCC2d 719, n. 21, *supra*, at ¶89 (1981) ("1981 DBS NPRM").

¹⁰⁹ *Id.* at ¶ 89. See also *id.* at n. 64 (the Commission recognized that the policies and regulatory classification for DBS could be resolved prior to the DBS service becoming operational).

¹¹⁰ See *Inquiry into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites for the Period Following the 1983 Regional Administrative Radio Conference*, 90 FCC 2d 676, n. 21, *supra*, at ¶ 81 (1982)("1982 DBS Report and Order").

otherwise.”¹¹¹ Thus, at the time Section 100.11 was adopted, all DBS providers were subject to the foreign ownership restrictions imposed by Section 310(b) of the Communications Act.

31. As noted above, the Commission in its *1986 Subscription Video Order* did revisit the issue of DBS regulatory classification and found that DBS service, when offered on a subscription basis, is not broadcasting.¹¹² In the Commission’s decision in the *1999 MCI Application for Review*, it specifically held that because subscription DBS is not a broadcast service, Section 310(b) does not apply.¹¹³ Although Section 100.11, by its literal terms, extends to all DBS providers, subscription as well as broadcast and common carrier, there is no indication, that the Commission, in 1982 when it adopted the rule, meant to impose foreign ownership restrictions on DBS providers that are not subject to the foreign ownership restrictions in Section 310(b).

32. Furthermore, we find that there is no public policy justification for imposing foreign ownership restrictions on DBS providers that are not subject to such restrictions under Section 310(b). First, licensees using FSS satellites to provide subscription DTH service that is almost identical to DBS service are not subject to foreign ownership restrictions nor do we believe it to be in the public interest to add such new DTH regulation. Second, eliminating these foreign ownership-licensing restrictions will allow DBS to compete on a more equal regulatory basis with cable, a service which does not have foreign ownership restrictions.¹¹⁴ Third, as PanAmSat notes, eliminating foreign ownership restrictions on subscription DBS and DTH service providers will promote flexible investment policies.¹¹⁵ Finally, we believe that by eliminating Section 100.11 of the Commission's rules, we will eliminate regulatory uncertainty about the circumstances under which such rules apply and that, as a result, our eligibility requirements will be clearer. Accordingly, we find it in the public interest to eliminate Section 100.11 of our rules. DBS providers will, of course, remain subject to the relevant statutory requirements of Section 310 of the Communications Act.

33. *Foreign Ownership Restrictions on DTH.* The *Notice* asked whether to impose foreign ownership limitations similar to those in Section 100.11 on DTH-FSS operators providing service on a subscription basis.¹¹⁶ As explained in the *Notice*, DBS and DTH are delivered using different distribution methods.¹¹⁷ Typically, FSS licensees lease transponder capacity to a DTH video service provider that in turn markets its product to consumers. In the DBS model, however, the satellite operator provides service directly to its customers. Commenters do not support imposing foreign ownership restrictions on DTH-FSS. PanAmSat is concerned that it would be administratively burdensome to enforce a foreign ownership limit on DTH-FSS licensees and service providers. PanAmSat argues that if we were to impose foreign ownership restrictions on DTH-FSS providers, space station licensees would be obligated

¹¹¹ See *1981 DBS NPRM* at n. 64. See also *MCI Application for Review* at ¶ 19.

¹¹² *Subscription Video Order Services* 4 FCC Rcd 4948 at ¶¶ 4 and 6.

¹¹³ *MCI Application for Review* at ¶¶ 11-14.

¹¹⁴ Comments of News Corp. at 8-9. News Corp. argues that foreign ownership limitations are not imposed on other subscription MVPD services with the exception of operators providing service on a broadcast or common carrier basis.

¹¹⁵ See Comments of PanAmSat at 18 (urging the Commission not to impose additional foreign ownership requirements for DTH-FSS).

¹¹⁶ *Notice* at ¶ 20.

¹¹⁷ *Notice* at ¶ 20.

to monitor the ownership of its customers, *i.e.* those leasing transponder capacity.¹¹⁸ Additionally, PanAmSat contends that foreign ownership limits would harm the U.S. satellite industry by artificially and unnecessarily restricting demand for transponders capable of serving the U.S. market.¹¹⁹

34. We will not impose specific foreign ownership limitations on DTH-FSS licensees providing subscription service in addition to the statutory limitations in Section 310(a) and (b) of the Act.¹²⁰ As commenters have correctly observed, there are no additional foreign ownership rules for MVPD services provided to subscribers by means of cable or DTH satellite systems,¹²¹ other than those required by statute.¹²² We believe that adopting foreign ownership rules for DTH-FSS licensees providing subscription services would affect the competitiveness of DBS, DTH and of the MVPD markets, which would be inconsistent with the Commission's efforts to increase competition in the MVPD market.¹²³ Furthermore, we have traditionally taken a deregulatory approach to DTH-FSS and have refrained from imposing unnecessary regulations.¹²⁴ As is the case for DBS, we will apply the requirements set forth in *DISCO II* in deciding questions of access to the U.S. market by non-U.S. licensed satellites.¹²⁵

35. *Application Requirements § 100.13.* The *Notice* proposed to eliminate Section 100.13, the current DBS application rule, and apply the application, processing, and licensing requirements that apply to other Part 25 satellite services.¹²⁶ Under Section 100.13 of the Commission's rules, a DBS applicant "shall include a showing describing the type of service that will be provided, the technology that will be employed, and other pertinent information . . . [that] may be presented in narrative format." Part 25 requires an applicant to submit FCC Form 312¹²⁷ and provide a narrative with pertinent details as required

¹¹⁸ Comments of PanAmSat at 18 (urging the Commission not to impose additional foreign ownership requirements for DTH-FSS).

¹¹⁹ *Id.*

¹²⁰ *Notice* at ¶ 20.

¹²¹ Comments of News Corp. at 8-9. News Corp. argues that no foreign ownership limitations are applicable to any other subscription MVPD service including DTH-FSS, MMDS, LMDS, OVS, or SMATV with the exception of operators providing service on a broadcast or common carrier basis.

¹²² *See Amendment of Parts 76 and 78 of the Commission's Rules to Adopt General Citizenship Requirements for Operation of Cable Television Systems and for Grant of Station Licenses in the Cable Television Relay Service*, 59 FCC2d 723 (1976) and 77 FCC2d 73 (1980) (declining to adopt limits on alien ownership of cable television systems); *See also Notice* at 6921 (noting that the Commission's rules set no restrictions on foreign ownership of DTH satellite systems, which transmit video programming to subscribers via channels in the C-Band). *See* 47 C.F.R. §21.4. We note that there are foreign ownership restrictions on MDS.

¹²³ *See In the Matter of United States Satellite Broadcasting, Inc., Transferor and DIRECTV Enterprises, Inc. Transferee; In the Matter of United States Satellite Broadcasting Company, Inc.*, 14 FCC Rcd 4585 (1999) ("USSB Order").

¹²⁴ *See generally Notice* where the Commission indicated a desire to continue to examine its policies to ensure that they are pro-competitive and deregulatory. *See also In the Matter of Streamlining the Commission's Rules and Regulations for Satellite Applications and Licensing Procedures*, 11 FCC Rcd 21581 (1996).

¹²⁵ *See Amendment to the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Services in the United States*, 12 FCC Rcd 24094 ¶ 98 (1997) ("DISCO II"). *See* Comments of Time Warner, Primestar, and USSB.

¹²⁶ *Notice* at ¶ 22.

¹²⁷ *See* 47 C.F.R. § 25.114(a).

by Section 25.114(c)(1)-(21).¹²⁸ We stated that information required by Part 25 is more comprehensive and specific than what is required under Part 100 and will allow the Commission to better evaluate each application. We also proposed not to apply the FSS financial qualification requirements in Section 25.140 to DBS applications.¹²⁹ The *Notice* also sought comment on whether DBS applicants should supply any additional technical information that is not required for other satellite services.¹³⁰

36. We received no comment on application requirements and we conclude that consolidating the rules will ensure uniformity and consistency with other satellite services.¹³¹ We find that applying the procedures in Section 25.114 of the Commission's rules to DBS applicants will alleviate unnecessary confusion over which application process to follow. DBS applicants will be required to provide the information requested by Form 312 and to follow all relevant Part 25 procedures.¹³² Under the Part 25 rules, applicants will be required to provide a narrative pursuant to Section 25.114(c)(1)-(22) of the Commission's rules.¹³³ We will also require a DBS applicant to indicate in its application the type of service it plans to provide (*i.e.* broadcast, common carrier, non-common carrier, or subscription service). Therefore, we will revise paragraph (14) of Section 25.114(c) to require a DBS applicant to choose the classification of its service. We also adopt our proposal in the *Notice* not to apply the financial requirements of Section 25.140 that apply to other Part 25 satellite services.¹³⁴ None of the commenters in the proceeding opposed this proposal. We find that it is in the public interest not to apply financial qualifications to DBS applicants. Additionally, we will require that DBS applicants provide all relevant ITU-related information as discussed below.¹³⁵

37. *Licensing Procedures 100.15.* Section 100.15 provides for a 45-day public notice period during which time interested parties may file comments and petitions related to the application.¹³⁶ In addition, a 45-day cut-off period is established for the filing of competing applications.¹³⁷ The existing Part 100 licensing procedures for DBS involve a three-step process that includes the grant of a

¹²⁸ See 47 C.F.R. § 25.114(c)(1)-(21).

¹²⁹ *Notice* at ¶ 22.

¹³⁰ *Id.* at ¶ 23. This issue is discussed in Section III.C., Technical Matters, *infra*.

¹³¹ See 47 C.F.R. § 25.114.

¹³² We note that the Commission has proposed modifications to the information requirements of satellite applicants, and a new satellite application form, Schedule S, to be added to FCC Form 312. See *2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations*, Notice of Proposed Rulemaking, IB Docket No. 00-248, 15 FCC Rcd 25128, 25191-25201 (2000) ("*Part 25 Earth Station Streamlining NPRM*"); See also *Amendment of the Commission's Space Station Licensing Rules and Policies*, Notice of Proposed Rulemaking, IB Docket No. 02-34, 17 FCC Rcd 3847, 3875-94 (2002) ("*Space Station Reform NPRM*"). Those proceedings are still pending. DBS applicants will be subject to any revisions to the satellite license information requirements that we adopt in those proceedings.

¹³³ 47 C.F.R. § 25.114(c)(1)-(21). See also new § 25.114(c)(22).

¹³⁴ *Notice* at ¶ 22.

¹³⁵ *Notice* at ¶ 22. See ITU Radio Regulations, Appendix 30, Art. 5.

¹³⁶ See 47 C.F.R. § 100.15(a).

¹³⁷ See 47 C.F.R. § 100.15(b).

construction permit, authorization of launch, and licensing of the space station. The *Notice* tentatively concluded that the DBS licensing process is burdensome and inconsistent with the Commission's other licensing practices for fixed and mobile satellite systems that are based on a one-step process.¹³⁸ Thus, the *Notice* proposed to eliminate the separate DBS licensing procedures in Section 100.15, and instead, apply the Part 25 licensing provisions to DBS applications,¹³⁹ including a one-step licensing process,¹⁴⁰ giving the DBS licensee a construction, launch authority, and system operation deadlines in the same authorization.¹⁴¹ The Commission requested comment on whether these proposals would provide adequate opportunities for the public to comment on DBS applications.¹⁴² No one filed comments on these licensing procedure proposals.

38. We will apply the Part 25 licensing provisions to DBS applications. By adopting the Part 25 licensing process that consolidates the grant of construction permit, authorization of launch, and the licensing of the space station facilities into a single procedure¹⁴³ we reduce the number of separate authorizations required from three authorizations to one authorization. This will streamline the DBS licensing process and make it consistent with the procedures used for other satellite applicants.

39. *License term § 100.17.* The *Notice* proposed to amend the Part 25 rules to include a ten-year license term for non-broadcast and an eight-year license term for broadcast DBS licensees.¹⁴⁴ The license terms for DBS licensees were first established in the *1995 DBS Auction Order*,¹⁴⁵ which adopted ten years for non-broadcast and five years for broadcast licenses.¹⁴⁶ As described in the *Notice*, Congress has since expanded the maximum term for broadcast licenses from five to eight years.¹⁴⁷ Accordingly, we proposed in the *Notice* to adopt an eight-year license term for DBS broadcast licensees and a ten-year term for non-broadcast DBS licensees.¹⁴⁸ No party commented on this proposal. Furthermore, we note that we recently adopted provisions for longer license terms for FSS satellite and earth station licenses, in part because most FSS satellites have longer useful lives than was the case when we adopted the current FSS license term.¹⁴⁹ Accordingly, we hereby adopt the DBS license terms as proposed.

¹³⁸ *Notice* at ¶ 24.

¹³⁹ *See* 47 C.F.R. Part 25, Subpart B.

¹⁴⁰ *Notice* at ¶ 24.

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *See* Part 25, Subpart B.

¹⁴⁴ *See* new § 25.146(b). *See also* *Notice* at ¶ 25.

¹⁴⁵ *Id.* at ¶ 25. The Commission extended DBS license terms in the *1995 DBS Auction Order* in recognition of the fact that today's satellites enjoy longer in-orbit lifespans than their predecessors. *DBS Auction Order* at ¶ 130.

¹⁴⁶ *Notice* at ¶ 25.

¹⁴⁷ 47 U.S.C. § 307(c)(1).

¹⁴⁸ *Notice* at ¶ 25.

¹⁴⁹ *See Space Station Reform NPRM*, 17 FCC Rcd at 3895-96, ¶ 143 (2002).

40. *Due diligence § 100.19.* The *Notice* proposed to retain the DBS-specific due diligence rules from Part 100 and move them into Part 25 along with the rules for DBS.¹⁵⁰ Additionally, the Commission requested comment on any further actions it could take to monitor system implementation (*e.g.*, requiring interim implementation certifications) or whether it should eliminate or modify any of the existing due diligence rules.¹⁵¹ The *Notice* did not propose applying the DBS due diligence rules to other satellite services and noted that the Commission has not adopted general rules regarding satellite construction milestones for all satellite services in light of the differences in system implementation plans among the many satellite services covered by Part 25.¹⁵² The Commission has, however, used its general licensing authority to impose satellite construction milestones on Part 25 licensees on a service-by-service basis.¹⁵³

41. Generally, commenters support the Commission's view that the Commission should retain its due diligence rules.¹⁵⁴ Specifically, Primestar supports consistent application of the due diligence rules to all similarly-situated DBS permittees. However, Primestar states that it sees no need to make any changes to the rules or apply them to other satellite services.¹⁵⁵

42. The Commission's DBS due diligence rules, and their associated deadlines, are designed to ensure that valuable spectrum is not warehoused, and that service is timely deployed for the benefit of the public. To facilitate service to the public, the Commission has chosen not to conduct exhaustive and protracted proceedings, such as comparative hearings, to determine in advance that licensees are financially and technically capable of building and operating DBS satellites.¹⁵⁶ In order to facilitate service to the public, the Commission has placed certain conditions on DBS permittees, including a requirement to construct and commence satellite operations within a specified period of time. These conditions, which are referred to as the DBS due diligence milestones, contain two deadlines.

43. The current due diligence rules¹⁵⁷ require an entity receiving a DBS authorization to proceed with due diligence in implementing its authorization, unless the Commission determines otherwise after a proper showing in any particular case.¹⁵⁸ The Commission established a two-prong standard for licensees to meet in order to satisfy the due diligence requirements. The first prong, Section 100.19(a) of the Commission's rules, requires a DBS licensee either to begin construction or to complete a contract for construction for its satellite(s) within one year of receiving a construction permit.¹⁵⁹ Orbital positions and

¹⁵⁰ *Notice* at ¶ 26.

¹⁵¹ *Id.*

¹⁵² However, the Commission recently invited comment on codifying generally applicable milestone requirements in part 25. *See Space Station Reform NPRM* at ¶ 103.

¹⁵³ The Commission has adopted specific satellite construction milestone requirements for the satellite digital audio radio service ("SDARS"), the fixed-satellite service in the 20/30 GHz Bands ("Ka-band") and the mobile satellite service in the 2 GHz Bands ("2 GHz"). *See* 47 C.F.R. §§ 25.144(b), 25.145(f), 47 C.F.R. 25.143(e) respectively.

¹⁵⁴ *See, e.g.*, Comments of Primestar at 23 and Comments of Tempo at 5.

¹⁵⁵ Comments of Primestar at 23.

¹⁵⁶ *See 1982 DBS Order* at ¶114 (1982).

¹⁵⁷ 47 C.F.R. § 100.19.

¹⁵⁸ 47 C.F.R. § 100.19(c).

¹⁵⁹ 47 C.F.R. § 100.19(a) (second sentence).

channels are not assigned to a DBS permittee until it meets the first milestone.¹⁶⁰ The second prong requires the permittee to begin operation within six years of receiving its permit.¹⁶¹ In the *DBS Auction Order*, the Commission changed these requirements for entities receiving DBS construction permits after January 1996. First, a permittee must complete construction of its first satellite within four years of authorization. Second, permittees must launch and operate all satellites in their DBS system within six years.¹⁶²

44. As proposed in the *Notice*, we will move the DBS due diligence rules from Part 100 to a new Section 25.148(c). DBS licensees will be required to submit annual progress reports on system implementation pursuant to Section 25.210(l), as are other satellite licensees.¹⁶³ Making these annual reports publicly available will offer a transparent process to allow private parties to assist the Commission in monitoring compliance. Continued oversight and enforcement of due diligence rules will ensure that permittees are committed to expediting delivery of DBS service to the public.¹⁶⁴ Moreover, the rule prevents warehousing of "substantial blocks of spectrum and valuable orbital positions."¹⁶⁵ The Commission's due diligence rules are an effective means of monitoring the progress of licensees and they enable the Commission to determine whether scarce orbital and frequency resources are adequately utilized without imposing undue burdens on licensees. The Commission is examining whether to revise its milestone policies for all satellite services in another proceeding.¹⁶⁶

¹⁶⁰ See *Processing Procedures Regarding the Direct Broadcast Service*, 95 FCC2d 250, 253 (1983).

¹⁶¹ 47 C.F.R. § 100.19(a).

¹⁶² *DBS Auction Order*, 11 FCC Rcd 9712 ¶ 10 (1995). In 1995, the Commission added the new requirement that those granted construction permits after January 19, 1996 complete construction of their first satellite within four years of receiving their construction permit because of its concern that the existing due diligence rules were not sufficient to ensure "consistent and purposeful progress by DBS permittees." See *Revision of the Rules and Policies for the Direct Broadcast Satellite Service*, Notice of Proposed Rulemaking, 11 FCC Rcd 1297 (1995) at ¶ 26.

¹⁶³ These reports are routinely available to the public except when the licensee files a request for confidentiality.

¹⁶⁴ The Commission has addressed the purpose of due diligence in several contexts. See *USSB Order* at n.61 (citing the *Advanced I* decision, where the Commission stated that "[t]he fact that Advanced continues to have a binding construction contract, or that it has made all payments required by this contract does not excuse its failure to meet the second part of its due diligence requirement --operation of its direct broadcast satellite system.") In this order the Commission waived Section 100.19(a) of its rules. See also *Advanced Communications Corp.*, 10 FCC Rcd 13337 (1995) ("Advanced P"), *aff'd Advanced Communications Corp.*, 11 FCC Rcd 3399 (1995) ("Advanced IP"), *aff'd Advanced Communications Corp. v. FCC*, 84 F.3d 1452 (D.C. Cir. 1996) *cert. denied*, *Advanced Communications Corp. v. FCC*, 117 S.Ct. 718 (1997). See also *1982 DBS Order*, 90 FCC2d at 719 ¶ 114. See also *Revision of Rules and Policies for the Direct Broadcast Satellite Service*, Report and Order, 11 FCC Rcd 9712, ¶ 10 (1995) (adopting additional due diligence requirements applicable to auction licensees is designed to "ensure consistent and purposeful progress toward construction and operation of DBS systems by those receiving permits" and to further the "Congressional goals of preventing warehousing of spectrum and encouraging investment in and rapid deployment of new services." (citing 47 C.F.R. § 309(j)(4)(B)).

¹⁶⁵ See *In the Matter of United States Satellite Broadcasting Company, Inc. Application for Additional Time to Construct and Launch a Direct Broadcast Satellite at 110° W.L. Orbital Location*, 14 FCC Rcd 4585 at ¶ 19 (released April 1, 1999) citing *CBS, Inc., For Authority to Establish Interim Direct Broadcast Satellite Systems*, Memorandum Opinion and Order, 92 FCC 2d 64, at ¶ 119 (1982) ("CBS P").

¹⁶⁶ See *In the Matter of Amendment of the Commission's Space Station Licensing Rules and Policies, 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the* (continued....)

45. Finally, Dominion suggests that we amend the due diligence rules to allow DBS permittees to satisfy their due diligence obligations through the lease or purchase of transponder space on a satellite that is owned by another permittee.¹⁶⁷ We decline to amend our rule and find that it is more appropriate to address questions regarding leases or purchase of transponder capacity on a case-by-case basis. Although we generally prefer that providers use their own facilities because we believe that facilities based competition offers the most benefit to the consumer, we note that the International Bureau did grant a waiver to Dominion to implement its system using leased transponders on an Echostar satellite.¹⁶⁸

46. *Equal employment opportunities § 100.51.* The Commission's equal employment opportunity ("EEO") rules are service specific. The EEO rules governing DBS are codified in Part 100 (Section 100.51(a)-(e)) of the Commission's rules.¹⁶⁹ The DBS EEO rules have two parts: the first part applies to DBS entities that operate as broadcasters (Section 100.51(a)-(d));¹⁷⁰ the second part applies to subscription DBS licensees (Section 100.51(e)).¹⁷¹ DBS licensees operating as broadcasters are subject to the EEO requirements in Section 100.51(a)-(d) and those DBS licensees operating on a subscription basis and DTH-FSS licensees providing subscription service are subject to Section 100.51(e), which cross-references the Part 76 EEO requirements.

47. In the *Notice*, we proposed to eliminate the DBS-specific rule located in Part 100 (Section 100.51) and instead adopt a Part 25 rule that cross-references the Commission's Part 73 (applicable to broadcast) and Part 76 (applicable to MVPD) EEO rules. As previously discussed, DBS providers have the choice of providing service on a broadcast, common carrier, or non-broadcast, non-common carrier basis. Thus, the applicable EEO rules depend on the type of service a DBS operator is providing.

48. After release of the *Part 100 Notice*, in the *Lutheran Church* case, the D.C. Circuit Court of Appeals held that a portion of the broadcast EEO rules¹⁷² were unconstitutional.¹⁷³ In September 1998,

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Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations, IB Docket Nos. 02-34 and 00-248, Notice of Proposed Rulemaking and First Report and Order, 17 FCC Rcd 3847 (2002) ("*Space Station Reform NPRM*"). The Commission may in a future proceeding consider the issue of whether to continue to apply the traditional DBS "totality of the circumstances" test in determining whether licensees have met their due diligence requirement. *See R/L DBS Company Order*. Alternatively, the Commission could decide to hold DBS licensees to the strict milestone requirements applicable to FSS licenses.

¹⁶⁷ Dominion Comments at 2-4. *See In the Matter of United States Satellite Broadcasting Company, Inc. Application for Additional Time to Construct and Launch a Direct Broadcast Satellite at 110° W.L. Orbital Location*, 14 FCC Rcd 4585 at ¶ 19 (1999). *See also Dominion Order* at ¶ 6 where the International Bureau granted Dominion authority to commence operation of a direct broadcast satellite service at the 61.5° W.L. orbital location using the EchoStar III satellite which is currently operating at that location. The Bureau also waived, on its own motion, Dominion's satellite construction and launch requirements under the due diligence rules.

¹⁶⁸ *See Dominion Order* where the International Bureau granted Dominion authority to commence operation of a direct broadcast satellite service at the 61.5° W.L. orbital location, using the EchoStar III satellite which is currently operating at that location. The Bureau also waived, on its own motion, Dominion's satellite construction and launch requirement under the due diligence rules.

¹⁶⁹ 47 C.F.R. § 100.51.

¹⁷⁰ 47 C.F.R. § 100.51(a)-(d).

¹⁷¹ 47 C.F.R. § 100.51(e).

¹⁷² *See* 47 C.F.R. § 73.2080.

the Commission issued an order suspending the rules in light of *Lutheran Church*.¹⁷⁴ Thereafter, in February 2000, the Commission issued a *Report and Order*, affirming its authority to enforce the anti-discrimination rule and issued new EEO rules for broadcast, cable, and MVPDs.¹⁷⁵ In January 2001, the D.C. Circuit Court of Appeals found the Commission's new EEO rule for broadcasters unconstitutional and vacated the rule.¹⁷⁶ We issued an *NPRM* proposing new EEO rules for broadcast, cable and MVPDs.¹⁷⁷ We received no comments regarding our proposals on EEO rules.

49. As proposed in the *Part 100 Notice* we eliminate the DBS-specific rule located in Part 100 (Section 100.51) and instead adopt a Part 25 rule that cross-references the Commission's Part 73 (applicable to broadcast) and Part 76 (applicable to MVPD) EEO rules to the extent applicable. Because Part 73 and 76 rules have been partially suspended, we will require DBS providers to comply with the Part 73 and 76 rules to the extent that they have not been suspended. Therefore, DBS providers operating on a broadcast or subscription basis and DTH-FSS licensees providing subscription service will be required to comply with the non-discrimination requirement, currently in effect.¹⁷⁸ We will require DBS providers to comply with any other EEO requirements that may be subsequently adopted or enforced by the Commission for broadcasters and MVPDs.¹⁷⁹ Finally, to implement these rule revisions, we revise Section 25.114 (c)(14) to require DBS applicants to specify whether they plan to operate on a broadcast or non-broadcast basis.

50. *Geographic Service Requirements § 100.53*. In the *DBS Auction Order*, the Commission imposed geographic service obligations requiring DBS licensees authorized after January 19, 1996 to provide service where technically feasible to Alaska and Hawaii upon commencement of operations.¹⁸⁰

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¹⁷³ See *Lutheran Church-Missouri Synod v. FCC*, 141 F.3d 344, *reh. denied*, 154 F.3d 487 (D.C.Cir. 1998) ("*Lutheran Church*"). The court remanded the anti-discrimination portion of the rule [Section 73.2080(a)] to the Commission for it to determine whether it was necessary. The court did not mention the cable/MVPD rules. The Commission filed a petition for rehearing. On September 15, 1998, the Court ruled *en banc* to uphold the original decision in *Lutheran Church*.

¹⁷⁴ See *Suspension of Requirement for Filing of Broadcast Station Annual Employment Reports and Program Reports*, 13 FCC Rcd 21998 (1998). Specifically, the order suspended the requirement for broadcasters to file annual employment reports (FCC Form 395-B) and EEO Program Reports (FCC Form 396), and for assignees or transferees to file the Model EEO Program Reports (FCC Form 396-A).

¹⁷⁵ See *In the Matter of Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies and Termination of the EEO Streamlining Proceeding*, Report and Order, 15 FCC Rcd 2329 (2000) ("*First EEO Report and Order*"), *recon denied*, 15 FCC Rcd 22548 (2000) and codified as Section 73.2080 of the Commission's Rules. 47 C.F.R. § 73.2080.

¹⁷⁶ See *MD/DC/DE Broadcasters Association v. FCC*, 236 F.3d 13, *rehearing den.* 253 F.3d 732 (D.C. Cir. 2001), *pet. for cert. filed*, *MMTC v. MD/DC/DE Broadcasters Association*, No. 01-639 (October 17, 2001) ("*MD/DC/DE Broadcasters*"). The Court therein found unconstitutional one of two options for achieving broad outreach provided by the broadcast EEO outreach requirements adopted in the *First EEO Report and Order*.

¹⁷⁷ See *Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies*, Second Notice of Proposed Rulemaking, MM Docket No. 98-204, FCC 01-363 (rel. December 21, 2001).

¹⁷⁸ See *In the Matter of Suspension of the Broadcast and Cable Equal Employment Opportunity Outreach Program Requirements*, FCC 01-34 (rel. January 31, 2001).

¹⁷⁹ *Id.*

¹⁸⁰ *DBS Auction Order* at ¶ 128. See also 47 C.F.R. § 100.53(b).

These obligations reflect the Commission's ongoing concern that residents of these States have access to DBS service. The rule requires DBS licensees that were holding DBS permits as of January 19, 1996 to relinquish their DBS channel assignments at the 175° W.L., 166° W.L., 157° W.L., and 148° W.L. orbital locations (the "western channels") if they do not provide service to Alaska and Hawaii before the expiration of their current authorizations.¹⁸¹ The Commission recognizes the importance of establishing DBS as a competitor to cable in the MVPD market in the States of Alaska and Hawaii and is committed to establishing policies and rules that will promote service to underserved areas, improve the delivery and quality of service, and provide more competition in the MVPD market.

51. The *Notice* proposed to move the DBS geographic service requirements from Part 100 to Part 25.¹⁸² The *Notice* also proposed to continue to require that all DBS licensees granted authorizations after January 19, 1996 provide service to Alaska and Hawaii where technically feasible.¹⁸³ In addition, it sought comment on whether this rule should apply to licensees that were granted authorizations prior to January 19, 1996 when they request extensions of time or renewal of their licenses.¹⁸⁴ Further, the *Notice* requested comment on whether the Commission should extend its geographic service rules to Puerto Rico and other U.S. territories.¹⁸⁵ Additionally, the *Notice* sought comment on whether there are other steps that the Commission should take to ensure delivery of service to non-CONUS locations.

52. In response to the *Notice*, DBS providers assert that the existing geographic service rules are adequate,¹⁸⁶ whereas representatives of Alaska and Hawaii are concerned about the initiation of service, quality of service and that there be adequate coverage.¹⁸⁷ Comments and *ex parte* comments¹⁸⁸ raised

¹⁸¹ *Id.* 47 C.F.R. § 100.53(a). Since January 1996, the Commission has granted several authorizations for DBS satellites to operate at orbital locations that can serve Alaska and Hawaii and conditioned those licenses on the requirement that the licensees provide service to those states. See *In re Application of MCI Telecommunications Corporation for Authority to Construct, Launch and Operate*, 11 FCC Rcd 16275 at ¶ 6 (1996); *In re Application of MCI Telecommunications Corporation for Authority to Construct, Launch and Operate a Direct Broadcast Satellite System at 110° W.L. Orbital Location*, 14 FCC Rcd 11077 at ¶ 42 (1999); *In re Application of EchoStar DBS Corporation for Authority to Construct, Launch and Operate a Direct Broadcast Satellite System at 148° W.L.*, 12 FCC Rcd 11946 at ¶ 5 (1996); *In the Matter of Tempo Satellite, Inc. Application for Authority to Launch and Operate a Direct Broadcast Satellite, Application for Minor Modification of Construction Permit, Special Temporary Authority to Test and Operate and Request Waiver of Section 319(d) of the Communications Act*, 13 FCC Rcd 9200 at ¶¶ 5, 35 (1997); *In the Matter of Tempo Satellite, Assignor, and DIRECTV Enterprises, Inc.*, 14 FCC Rcd 7946 (1999); *In the Matter DIRECTV Enterprises, Inc. Application to Launch and Operate a Direct Broadcast Satellite Service Space Station*, 16 FCC Rcd 18530 (2001); and *In the Matter of EchoStar Satellite Corporation Application for Minor Modification of Direct Broadcast Satellite Authorization, Launch and Operating Authority for EchoStar 7*, 17 FCC Rcd 894 (2002); *In the Matter of DIRECTV Enterprises, Inc. Application to Launch and Operate a Direct Broadcast Satellite Service Space Station*, 15 FCC Rcd 23630 (2000); and *In the Matter of DIRECTV Enterprises, Inc. Application for Authority to Launch and Operate a Replacement Direct Broadcast Satellite Service Space Station*, 14 FCC Rcd 13159 (1999).

¹⁸² *Notice* at ¶ 33 proposing to move § 100.53 to a new Section in Part 25.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Notice* at ¶ 35.

¹⁸⁶ See, e.g., Comments of DIRECTV at 16; Comments of USSB at 6.

¹⁸⁷ See generally Ex Parte Comments of Microcom; Comments of Hawaii; Comments of Alaska; Letter from Representative Patsy Mink (D-HI) (dated 9/18/2000 and 12/27/1999); Letter from Senator Daniel K. Akaka (D-HI) (dated 1/4/2000); Letter from Senator Ted Stevens (R-AK) (dated 2/15/2000 and 9/21/2000); and Letter from (continued....)

several issues. These include: 1) the feasibility of providing a defined level of service; 2) whether the rules should apply to requests for modification of license renewals and replacements as well as current licensees; 3) the definition of comparable service to all areas of coverage; 4) a proposed off-shore states policy;¹⁸⁹ 5) the status of service to Puerto Rico and the Virgin Islands; 6) application of the rules to DTH-FSS; and 7) application of the Commission's geographic service rules to foreign-licensed satellites. Commenters contend that the vast majority of service in both Alaska and Hawaii is delivered by a single provider, since it offers the only programming packages that are attractive to most consumers.¹⁹⁰ The State of Hawaii asserts that there is only one DBS licensee making progress in bringing adequate DBS programming to consumers in the State, and that the other licensee does not appear to be trying to comply with the obligation.¹⁹¹

53. In its effort to facilitate service to the States of Alaska and Hawaii, the Commission has had continuous discussions with representatives of both States and other interested parties concerning this issue. Commission staff held separate and joint meetings with each major DBS provider and with representatives of the States of Alaska and Hawaii, giving them the opportunity to share concerns and information regarding their particular DBS service plans for the States.¹⁹² In this same time period, both providers announced plans to begin, and now provide service to the State of Hawaii. In addition, both providers stated that they already were providing some level of service to Alaska. The Commission plans

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Senator Inouye (D-HI) (dated 3/19/1998 and 9/21/2000). Commenters representing the States of Alaska and Hawaii urge the Commission to adopt a four part rule: 1) the Commission should extend the geographic service requirements to all MVPD satellite providers; 2) the Commission should clarify that the service requirements apply to all DBS licensees that were granted authorization prior to January 19, 1996; 3) the Commission should require licensees to provide service to Alaska and Hawaii from their western orbital locations by the end of their western orbital milestones; 4) should require DBS licensees to provide full service to Alaska and Hawaii before they can be eligible to provide service beyond their existing eastern allocations. The States of Alaska and Hawaii assert that this will encourage DBS service providers to expedite service to these areas.

¹⁸⁸ The State of Hawaii and the State of Alaska and various other parties have filed *ex parte* comments reasserting the arguments stated in their original comments. Due to the constant changes in the industry, many of the particular facts noted in these comments are outdated. Therefore, we have addressed the essential arguments in the following: Ex Parte Comments of EchoStar (March 14, 2001); Ex Parte Comments of Hawaii (March 16, 2001); Ex Parte Comments of Hawaii (January 29, 2001); Ex Parte Comments of Hawaii (November 21, 2001); Ex Parte Comments of Hawaii (October 30, 2000); Senator Inouye, et. al. (October 6, 2000); Ex Parte Comments Microcom (March 7, 2000); Ex Parte Comments of Hawaii (November 3, 1999); Ex Parte Comments of PanAmSat Corporation (August 16, 1999); Ex Parte Comments of Alaska (August 13, 1999); Ex Parte Comments of the Governor of the State of Alaska (August 6, 1999); Ex Parte Comments of Hawaii (June 24, 1999); Ex Parte Comments of Hawaii (August 8, 1998); Ex Parte Tom Brady (April 11, 2001); Ex Parte Comments of Hawaii (October 25, 2001); Ex Parte Comments of Hawaii (January 11, 2002); Ex Parte Comments of Alaska (January 14, 2002); Ex Parte comments of Jon Sobstad; and Ex Parte Comments of Hawaii (July 14, 1998).

¹⁸⁹ See Notice at ¶ 34. This policy would require licensees of DBS channels at eastern orbital locations to demonstrate that they have provided service to the states of Alaska and Hawaii before they are eligible to provide service from any eastern DBS channel assignments beyond their existing assignments.

¹⁹⁰ See Ex Parte Comments of Hawaii 2; Ex Parte Comments of Tom Brady, Microcom (March 30, 2001). In Alaska, approximately 95% of the service is provided by EchoStar. In Hawaii the numbers are similar where nearly all of the 3000 subscribers are associated with DISH TV.

¹⁹¹ See Ex Parte Comments of Hawaii at 3.

¹⁹² The first meeting with EchoStar took place in April 2000 and the second with DIRECTV took place in June 2000.

to continue to work with DBS operators, particularly with DIRECTV, and the States to ensure that DBS licensees provide the service required under our rules.

54. *Technical Feasibility.* Underlying the Commission's geographic service rules is the concept of technical feasibility. In its *DBS Auction Order*, the Commission found that service to Alaska and Hawaii is technically feasible and economically reasonable from the 110° W.L. and 119° W.L. orbital locations, as well as from the four western orbital locations.¹⁹³ The Commission stated that any licensee at one of these six locations should anticipate providing service to Alaska and Hawaii.¹⁹⁴ The Commission did not determine whether service to Alaska and Hawaii was technically feasible or economically reasonable from the 101° W.L. or 61.5° W.L. orbit locations. Rather, it stated that a licensee that has channels at 101° W.L. or 61.5° W.L. that does not provide service to Alaska or Hawaii will bear the burden of showing that such service is not feasible as a technical matter, or that while technically feasible, such service would require so many compromises in satellite design and operation as to make it economically unreasonable.¹⁹⁵

55. We note that Ku-band¹⁹⁶ satellite operators typically require a minimum elevation angle¹⁹⁷ of ten degrees or greater in order to provide reliable service to a particular location,¹⁹⁸ although service in Alaska has often been offered at elevation angles as low as five degrees.¹⁹⁹ The chart below shows elevation angles above the horizon as seen from an earth station at various Alaskan locations, when looking toward the four eastern geostationary orbit locations. The shading in the table indicates those Alaskan locations where a minimum elevation angle of either five degrees or ten degrees is not met.²⁰⁰

¹⁹³ *DBS Auction Order* at ¶ 128 cited in *Notice* at ¶ 33.

¹⁹⁴ *DBS Auction Order* at ¶ 128.

¹⁹⁵ *Id.*

¹⁹⁶ The term Ku-band is not consistently defined. Many sources define it to include the frequency range from 10.9 to 17 GHz. The IEEE defines the Ku-band as a frequency band between 12 GHz and 18 GHz, usually in one of the ITU assigned bands. For DBS operations in Region 2, Ku-band can be understood to mean the 12.2-12.7 GHz BSS frequency allocation.

¹⁹⁷ Elevation angle can be defined as the upward tilt of an earth station antenna measured in degrees relative to the horizontal plane (ground), that is required to aim the earth station antenna at the satellite. When aimed at the horizon, the elevation angle is zero. If the earth station antenna were tilted to a point directly overhead, it would have an elevation angle of 90°.

¹⁹⁸ See <http://www.mlesat.com/install.html> (visited March 16, 2001) citing excerpts from *Satellite Installation*, produced by Shelburne Films, written and presented by Mark Long, 1997. This source states that minimum antenna elevation angles of 5°, for C-band, and 10° for Ku-band, usually are recommended. This value is determined in part by the amount of ground noise that the antenna receives (significantly higher at lower elevation angles). In addition, rain attenuation as a function of path length between the satellite and the earth station (greater at lower elevation angles) will degrade the overall signal-to-noise ratio. The Commission's rules generally require a minimum elevation angle of 5° for transmitting earth stations. 47 C.F.R. § 25.205.


¹⁹⁹ See Ex Parte Comments of Tom Brady, Microcom (March 30, 2001). Because of its high latitudes, portions of Alaska cannot be seen from the geostationary satellite arc at higher elevation angles. Although service is offered, many providers make disclaimers regarding its availability at these lower elevation angles.


²⁰⁰ The relationship between elevation angle and service provision is not absolute. Many other factors can influence the provision of service to a given area. We note also that there are a number of differing regulatory requirements addressing minimum elevation angles. For instance, Article 21.14 of the International Radio Regulations specifies a minimum receiving earth station elevation angle of three degrees for the purpose of (continued....)

For service to Hawaii the situation is different. Elevation angles to Honolulu from the 101° W.L., 110° W.L. and 119° W.L. locations are 22.5°, 31°, and 40°, respectively, well above the ten degree value. We now conclude that it is not technically feasible to serve either Alaska or Hawaii from the 61.5° W.L. orbit location, because satellites at that location have no line-of-sight visibility to these States.²⁰¹ We will reflect this conclusion in our rules.²⁰² With respect to the 101° W.L., 110° W.L. and 119° W.L. orbit locations, we recognize that it is possible to provide service to Hawaii and also to significant portions of Alaska. The fact that operators now offer service to Alaska and Hawaii from these three locations further demonstrates that it is technically feasible and economically reasonable to serve Alaska and Hawaii from the 101° W.L., 110° W.L. and 119° W.L. orbit locations.²⁰³

ELEVATION ANGLE TO VARIOUS ALASKAN LOCATIONS FROM FOUR EASTERN DBS ORBIT POSITONS

| Alaskan Location | Latitude | Longitude | Elevation angle from 61.5°W (degrees) | Elevation angle from 101°W (degrees) | Elevation angle from 110°W (degrees) | Elevation angle from 119°W (degrees) |
|------------------|----------|-----------|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Attu Island | 52 N | 172 E | <0 | <0 | <0 | 4 |
| Anchorage | 61 N | 150 W | <0 | 10 | 13 | 16 |
| Barrow | 71 N | 157 W | <0 | <2 | 4 | 6 |
| Fairbanks | 65 N | 148 W | <0 | 8 | 11 | 13 |
| Juneau | 58 N | 134.5 W | <0.25 | 18 | 21 | 23 |
| Kodiak | 58 N | 152.5 W | <0 | 11 | 15 | 18 |
| Nome | 64 N | 165.5 W | <0 | 2 | 6 | 9 |

 10° elevation angle is not met

 5° elevation angle is not met

(Continued from previous page) _____
 coordination between space and terrestrial systems. The Region 2 BSS Plan is based on the desirability of a minimum elevation angle of 20°. However, many exceptions are recognized including the inability to achieve this value at latitudes above 60°, the desirability of elevation angles in excess of 30° in mountainous areas, and an elevation angle of at least 40° in some high precipitation areas. (See § 3.12 of Annex 5 to Appendix 30). Finally, due to interference considerations, the Commission normally requires a minimum earth station elevation angle of five degrees. See 47 C.F.R. § 25.205.

²⁰¹ The elevation angle from 61.5° W.L. to Honolulu, and to all parts of Alaska other than the panhandle region is <0 degrees. In the regions of Alaska south of 60° north latitude (Alaskan panhandle), elevation angles are less than 1°.

²⁰² See new §25.148(c).

²⁰³ See, eg., *In the Matter of DIRECTV Enterprises, Inc. for Authority to Launch and Operate a Direct Broadcast Satellite Service Space Station*, FCC DA 00-2381, 15 FCC Rcd 23630 (2000); and *In the Matter of EchoStar Satellite Corporation Application for Authority to Make Minor Modifications to Direct Broadcast Satellite Authorization Launch and Operation Authority*, FCC DA 00-2382, 15 FCC Rcd 23636 (2000).

56. In examining other factors regarding service to Alaska and Hawaii, we recognize that U.S. DBS systems must comply with the provisions contained in Appendices 30 and 30A of the International Radio Regulations. These Appendices and their associated Regional Plans²⁰⁴ assign specific orbital locations, channels and beams to each Administration within the particular ITU Region.²⁰⁵ In the Region 2 BSS and feeder-link Plans, only the four western U.S. orbital locations (*i.e.*, 148° W.L., 157° W.L., 166° W.L. and 175° W.L.) were intended for the provision of service to Alaska and Hawaii.²⁰⁶ If at a given orbital location (*e.g.*, 101° W.L. or 119° W.L.), a DBS licensee intends to provide service outside of the service area of the original Region 2 BSS Plan assignment, it must seek modification of the characteristics of the frequency assignments as specified in the Appendices 30 and 30A BSS and feeder-link Plans for Region 2. In following the Plan modification process,²⁰⁷ proposed modifications must respect the power limits specified in the International Radio Regulations that are intended to protect the services of other Administrations.²⁰⁸ If these limits are exceeded, the United States must obtain the agreement of the affected Administration(s) on behalf of the DBS operator. The process of seeking agreement can be lengthy and the outcome is not guaranteed. Moreover, a DBS system exceeding the international limits specified in Annex 1 of the Appendices 30 and 30A has no international standing, *i.e.* no protection from interference from other systems until the Plan modification process is complete. Nor can it operate outside of the Plan parameters (*e.g.* higher pfd values) if the affected Administration complains about interference from the U.S. DBS system.

57. Historically, U.S. DBS systems have had particular difficulty in expanding service areas to better serve Alaska, largely due to the international power flux density²⁰⁹ (“pfd”) limits in place to protect terrestrial services in Region 1.²¹⁰ Typically the footprints of U.S. DBS satellites serving Alaska also

²⁰⁴ The United States is located within ITU Region 2 (North and South America) and service to the U.S. is provided for in the Region 2 BSS and feeder-link Plans. The U.S. also has some channel assignments in the Regions 1 and 3 BSS and Feederlink Plans at eastern-hemisphere locations, that are intended for service to U.S. possessions and territories in the Asia-Pacific region (*e.g.*, Guam).

²⁰⁵ The Appendices also provide basic operating characteristics and associated technical data, sharing criteria, a method for modifying the Plans, and limits for determining the need to coordinate with other Administrations.

²⁰⁶ Only these four locations have beams in the ITU Region 2 BSS and feeder-link Plans to cover Hawaii and Alaska.

²⁰⁷ The Plan modification process is contained Article 4 of Appendices 30 and 30A of the International Radio Regulations.

²⁰⁸ See Annex 1 to Appendices 30 and 30A to the International Radio Regulations that contain certain limits for determining whether a service of an Administration is affected by a proposed modification to the Plans. The limits include various pfd values, changes in the overall equivalent protection margin or equivalent noise temperature. These limits are intended to protect other Administration’s Plan assignments, FSS networks, and terrestrial systems. These threshold values must be met by proposed BSS systems or the U.S. must seek the agreement of the affected Administration on behalf of the U.S. DBS operator.

²⁰⁹ Power flux density can be defined as a measure of the radiated power from the satellite as observed on the ground. It is the power received over a given surface area and within a specified bandwidth (units = dBW/m²/Hz).

²¹⁰ See *In re Application of EchoStar Satellite Corporation for Special Temporary Authority to Operate a Direct Broadcast Satellite Over Channels 1-31 (Odd) and 2-26 (Even) at the 110° W.L. Orbital Location*, Order, 14 FCC Rcd 10006 (1999).

illuminate portions of Siberia.²¹¹ Prior to the World Radiocommunication Conference 2000 (WRC-2000), the Appendix 30 pfd limits were very constraining, inhibiting the provision of DBS service to Alaska.²¹² To protect terrestrial receivers, these pfd limits were more stringent at lower elevation angles (*i.e.*, for satellites further east, such as at 101° W.L.). At WRC-2000, the U.S. was successful in having the international pfd limits that protect terrestrial services in Region 1 relaxed.²¹³ The modified terrestrial protection limits now applicable in Siberia allow increased effective isotropically radiated power (“eirp”) from U.S. DBS satellites into Alaska. Further, WRC-2000 also modified the pfd limits applied to Region 2 BSS in order to protect FSS operations in Region 1.²¹⁴ Relaxation of these FSS protection limits at larger orbital separations (>6.2°)²¹⁵ will also permit increased DBS space station eirp to Alaska particularly from CONUS orbit locations. As a result of these modified international pfd limits, we expect the situation for service to Alaska to improve as new DBS satellites are designed and launched.²¹⁶

58. In the *DBS Auction Order*, the Commission recognized that in applying the geographic service rules it is important to take into account both technical and economic factors in order to determine whether it is technically feasible to provide service.²¹⁷ Industry commenters urge the Commission to retain this concept of technical feasibility in any new geographic service obligations.²¹⁸ We will maintain the technically feasible aspect of our geographic service rules regarding service to the States of Alaska and Hawaii. We will address any questions that may arise regarding the technical feasibility of serving a particular geographic area on a case-by-case basis, while maintaining our goal of providing service to underserved areas.

²¹¹ The entire Administration of Russia, including its eastern-most Siberian regions, is considered to be part of ITU Region 1.

²¹² These pfd limits were contained in Section 5(c) of Annex 1 to Appendix S30 (Edition of 1998).

²¹³ See International Radio Regulations, Section 4 of Annex 1 to Appendix 30. Appendices 30 and 30A, (Edition of 2001), apply to proposed modifications to the Plans received after WRC-2000. See Resolution 533 (Rev. WRC-2000).

²¹⁴ See Section 6 of Annex 1 to Appendix 30 and Resolution 540 (WRC-2000) in the Final Acts of WRC-2000. In Region 1 the FSS allocation is in the 12.5-12.75 GHz band, overlapping in frequency with the Region 2 BSS allocation in the 12.2-12.7 GHz band.

²¹⁵ The WRC-2000 recognized that the existing pfd limits applied to protect the FSS from BSS transmissions did not vary as a function of orbital separation between the FSS and BSS space station. Thus, adequate protection was not provided to FSS networks at small orbital separations, and at large separations the power limits were overly constraining to the BSS networks. The interim modified power limits that were adopted by the WRC-2000 vary with orbital separation, and are more relaxed than the previous limits for separation angles greater than approximately 6.2 degrees. These pfd values are now under study in the ITU-R and may be further revised at WRC-2003. See Resolution 540 (WRC-2000) in the International Radio Regulations (Edition of 2001).

²¹⁶ A DBS providers' ability to serve U.S. territories in the Caribbean region is similarly constrained by international pfd limits. At WRC-2000, the United States was also successful in relaxing certain limits to protect terrestrial services in the Caribbean. Accordingly, we also expect a similar improvement in service to U.S. territories in the Caribbean from U.S. DBS satellites designed and launched after WRC-2000. The situation for Hawaii is different, as it is geographically isolated from the territories of other Administrations, and protection of foreign terrestrial services has not been a factor in constraining DBS service.

²¹⁷ See *DBS Auction Order* at ¶¶ 125-128.

²¹⁸ See, *e.g.*, Comments of DIRECTV at 19.

59. In addition, we believe that market forces will continue to provide some incentive for DBS service providers to reach more potential customers in new markets through geographic expansion.²¹⁹ EchoStar and DIRECTV's space station authorizations note that DBS licensees say that they are committed to providing service to Alaska and Hawaii.²²⁰ DIRECTV now serves Hawaii and Alaska from 101° W.L. and to a limited extent from the 119° W.L. orbit location.²²¹ EchoStar is providing service to Alaska and Hawaii from both the 110° W.L. and 119° W.L. orbit locations.²²² Recognizing that DBS licensees are now serving both Alaska and Hawaii, we believe that our existing geographic service rules are successfully promoting service to these traditionally underserved areas. We recognize, however, that many consumers in these States are dissatisfied with the programming and service options currently being offered, which are different than those offered to customers in the Mainland. We address these concerns below.

60. *Modification and License Renewals.* The State of Hawaii states that although the Commission has imposed geographic service obligations on all providers that are authorized after January 19, 1996,²²³ Section 100.53(b) as written, applies only to permittees and licensees who are granted initial authorizations after January 19, 1996, and does not specifically cover similarly-situated DBS providers (*i.e.* DBS licensees that request an extension of time, request license renewals, or request authority to replace a satellite). Hawaii maintains that the term "authorization" in Section 100.53(b) should cover a variety of Commission actions.²²⁴ Hawaii urges the Commission to clarify that Section 100.53 applies to all DBS licensees that request any type of authorization.²²⁵ Further, Hawaii argues that the Commission should not exempt any existing permittees from the geographic service obligations because they have been on notice since December 1995 that their satellites should be technically capable of serving Hawaii and Alaska. Further, Hawaii states that there is no valid reason why a DBS provider should launch a satellite today that is not technically capable of serving these states.²²⁶

²¹⁹ See Comments of Loral at 4; Comments of DIRECTV at 16; Comments of Tempo at 6; and Reply Comments of USSB at 2.

²²⁰ See *In the Matter of DIRECTV Enterprises, Inc. for Authority to Launch and Operate a Direct Broadcast Satellite Service Space Station*, 15 FCC Rcd 23630. (2000); See also *DIRECTV Application for Authority to Launch and Operate a Replacement Direct Broadcast Satellite Service Space Station*, 14 FCC Rcd 13159 (1999); and *In the Matter of EchoStar Satellite Corporation Application for Authority to Make Minor Modifications to Direct Broadcast Satellite Authorization Launch and Operation Authority*, 15 FCC Rcd 23636 (2000).

²²¹ See *DIRECTV Press Release*, El Segundo, CA, September 14, 2000. Since September 2000, DIRECTV offers four programming packages to residents of Hawaii. English language programming is broadcast from the satellite at the 101° W.L. location. However, customers do not initially have access to the full programming options and require a 29x39-inch oval receive antenna. Spanish-language programming is transmitted from the 119° W.L. location and reception requires an 18-inch antenna. Service to Alaska is also available from 101° W.L. and to a limited extent from the 119° W.L. location. Receive antenna sizes vary with location in the State. For reception from 101° W.L. we understand that 30-inch antennas may be used in southeastern regions below about 57° latitude with up to 2.4-meter or greater antennas required in the more remote locations.

²²² Typical antenna sizes in Hawaii range between 0.6 to 1.0 meter, depending upon location. In Alaska antenna size can vary from 0.76-1.8 meters (East Alaska) to more than 3.0 meters (West Alaska).

²²³ Reply Comments of Hawaii at 4-5.

²²⁴ Reply Comments of Hawaii at 5-6.

²²⁵ *Id.* at 5-6 and Ex Parte Comments of Hawaii at 2.

²²⁶ *Id.*

61. Other commenters reply that in many cases, upon renewal, DBS operators continue to use existing satellites with useful lives that extend beyond their initial license terms.²²⁷ They contend that satellites constructed and launched before 1996 were not originally designed to serve Alaska and Hawaii and that it would be extremely costly, even if it were possible, to reconfigure existing in-orbit satellites.²²⁸ Further, permittees that were granted their permits before 1996 made design and business decisions before the geographic service requirements were implemented.²²⁹ These commenters maintain that in the event that the Commission applies the geographic service rule to operators that received their authorizations before January 19, 1996, the Commission should clarify that this rule applies only if it is technically feasible for the satellites in question to provide such service.²³⁰ In adopting its geographic service rules, commenters assert that the Commission correctly provided existing systems with the necessary flexibility to phase-in service to Alaska and Hawaii.²³¹ Additionally, commenters note that applying the geographic service rules to DBS operators is unfair because other MVPD operators are not subject to any geographic service rules.²³² According to commenters, the costs involved in constructing and launching new satellites to comply with the post-1996 geographic service requirements and prematurely replacing existing satellites would only succeed in hindering competition to cable, not promoting it.²³³

62. As proposed in the *Notice*, we will incorporate the DBS geographic service requirements into Part 25 of our rules.²³⁴ As proposed in the *Notice*, we will continue to apply the rule in Section 100.53(b) which requires that all DBS licensees granted authorizations after January 19, 1996 must provide service to Alaska and Hawaii, where technically feasible.²³⁵ Under this requirement, DBS operators have ample time to make design and business decisions that are required to implement such service. We believe that this rule will facilitate the Commission's goal of rapid deployment of DBS services and promote improved levels of service to Alaska and Hawaii while balancing the technical constraints placed on operators. DBS providers must comply with the Commission's geographic service requirements as well as all other obligations under the SHVIA and DBS public interest obligations.

63. With respect to licensees who were granted authorizations prior to January 19, 1996 and who request extensions of time or renewal of their licenses,²³⁶ DBS licensees launching a replacement satellite

²²⁷ Comments of DIRECTV at 16-17; Comments of EchoStar at 9-10; Comments of Primestar at 24; Reply Comments of DIRECTV at 6; Reply Comments of USSB at 2.

²²⁸ Reply Comments of DIRECTV at 6. USSB further argues that extending the requirements where the satellite is not capable of serving Alaska and Hawaii would effectively force licensees to shut down their eastern satellites at the end of the license term and expand the requirements in a way that the existing DBS providers could not have considered when they were initially designing and building their systems. Reply Comments of USSB at 2.

²²⁹ Comments of EchoStar at 11.

²³⁰ Comments of Primestar at 24.

²³¹ Reply Comments of USSB at 2.

²³² *Id.* at 12.

²³³ *Id.*

²³⁴ *See* new § 25.148(c).

²³⁵ *Notice* at ¶ 32 *citing* 47 C.F.R. § 100.53(b).

²³⁶ *Id.*

or significantly modifying the satellite design of a pre-1996 authorized space stations must serve Alaska and Hawaii, if technically feasible. If, however, a DBS licensee requests a renewal or extension of time of its current authorization and intends to use an existing satellite, under the post-1996 rule, a DBS operator will not be required to terminate service from its existing satellite and launch a replacement satellite in order to comply with the rules. It is neither cost effective nor a prudent use of resources for a DBS operator to reconfigure its existing satellite system in order to comply with the Commission's geographic service rules if the operator is still using a satellite authorized before 1996.²³⁷ We will review all such requests on a case-by-case basis and require that the DBS licensee demonstrate to the Commission that it is not technically feasible to serve the States of Alaska and Hawaii. In addition, DBS licensees are on notice that any new satellites they are designing must comply with our geographic service rules.

64. Accordingly, we require a DBS licensee authorized prior to January 19, 1996 seeking to replace or significantly modify its originally authorized space station to serve Alaska and Hawaii, if technically feasible.²³⁸ On appropriate request, we will evaluate on a case-by-case basis the practical and economic implications of service to Alaska and Hawaii for replacement, modification, and extension applications.

65. *Service to Alaska and Hawaii.* Our geographic service obligations require DBS licensees authorized after January 19, 1996 to provide “service” where technically feasible to Alaska and Hawaii upon commencement of operations.²³⁹ In its comments and in several *ex parte* filings, the State of Hawaii, supported by the State of Alaska, urges the Commission to expand the definition of “service” or clarify that the geographic service rules require “full service” to the non-CONUS states.²⁴⁰ In other filings, Hawaii refers to the need for “comparable service,” meaning service that is of equal value to or is comparable to that provided in CONUS states, in terms of antenna size, program offerings, and price. We discuss below each of Hawaii’s proposals for a definition of service. We recognize the importance of establishing DBS as a competitor to cable in the multi-channel video programming distribution market in the States of Hawaii and Alaska. In an effort to balance requirements to provide service to all 50 states, and in order to avoid dictating system design or business plans, we decline to specifically define what constitutes full or comparable service although we expect that DBS operators will offer the same level of service to customers throughout all 50 states. We do, however, clarify that DBS operators must offer packages of services in Alaska and Hawaii that are reasonably comparable to what they offer in the contiguous 48 states.²⁴¹ We discuss these issues in greater detail below.

66. With regard to defining comparable equipment, and in particular antennas, we note that there are considerable differences within the contiguous United States with regard to receive antenna sizes. While the smallest antennas in use are approximately 18-inches, larger diameter antennas (*e.g.*, 24-inches) are commonly used in areas along both coasts and in higher rain-rate regions.²⁴² In addition,

²³⁷ See also Reply Comments of DIRECTV at 6; Reply Comments of Primestar at 10; Reply Comments of PanAmSat at 3; Reply Comments of USSB at 3.

²³⁸ See new §25.148(d).

²³⁹ *Id.* See also 47 C.F.R. § 100.53(b).

²⁴⁰ See Comments of Hawaii and Alaska.

²⁴¹ This requirement is subject to the technical feasibility provisions of new §25.148 (c).

²⁴² The satellite signal suffers attenuation in the presence of rain, particularly at Ku- and Ka-band frequencies where the wavelength of the signal is comparable to the diameter of the raindrop (*i.e.*, 1-2 cm). In areas where the rainfall rates are high (*e.g.*, Florida) larger diameter receive antennas are employed to compensate for this effect.

programming and service options will in part determine the receive earth station antenna size. For example, an antenna designed to see multiple satellites may require a larger surface area,²⁴³ and we expect that the introduction of new services such as two-way Internet will likely further increase the range of available antenna diameters.²⁴⁴ Consequently, typical equipment parameters for the contiguous United States are neither uniform nor static, and any basis for comparison is difficult to establish.

67. Historically, the primary reason for larger diameter antennas in Hawaii and Alaska has been the great distance between these states and the satellite beam-center.²⁴⁵ Typically, operators focus their beams, which in turn concentrates their power, over the center of the contiguous United States so that the maximum signal strength is distributed over the largest area of populated land. Received-power levels decrease with distance from the beam center, so that a State such as Hawaii or Alaska, located near the edge of the beam footprint, will receive a significantly lower level of power than a location in the center of the continental United States. However, with the maturation of satellite technology we are seeing increased ability to deliver higher power levels across a large service area. Further, with the advent of spot beam and shaped beam technology,²⁴⁶ we believe that the ability to deliver increased power levels to more distant geographic regions such as Alaska and Hawaii will continue to improve.

68. Nonetheless, factors such as international pfd limits, rain rates, and elevation angle to the satellite may result in differences in some technical parameters associated with the service provided to different portions of the United States, including Alaska and/or Hawaii. The Commission has recognized in the past that due to various technical limitations not all DBS orbital locations are capable of serving all areas of the United States with the same size receive antenna.²⁴⁷ Because satellite system resources are intricately related to one another, a single parameter such as antenna diameter cannot simply be mandated without regard to the many factors involved in overall satellite system design.²⁴⁸ There is insufficient information on the record to justify the Commission mandating DBS system design. Moreover, we are not in a position to predict future technological advances in a still-evolving industry, nor do we believe that this approach is necessarily in the best interest of the U.S. consumer. Such an approach is not consistent with the flexibility that the Commission has afforded DBS service providers in the past. In addition, we note that the Commission has not sought or approved the establishment of a mechanism to monitor and enforce a receive-antenna diameter requirement, even if we chose to adopt such a requirement. Satellite operators do not report the characteristics of DBS receive antennas installed around the country to the Commission. Nor are they required even to apply for separate licenses for receive-only (non-transmitting) DBS antennas. None of the commenters have proposed a workable mechanism by which we might effectively implement and enforce an antenna size requirement. Nonetheless, we

²⁴³ For example, a subscriber may wish to see multiple satellites in order to receive a particular combination of programming options, or to receive local channels that are carried on a different satellite than the one transmitting the primary programming package.

²⁴⁴ Both major DBS providers are introducing new two-way Internet access offered in conjunction with their video services.

²⁴⁵ In Alaska, the ability to deliver higher power level signals is further constrained by the low elevation angles and international power limits in Siberia.

²⁴⁶ A spot beam is a focused antenna pattern set to cover a limited geographic area.

²⁴⁷ See *Preemption of Local Zoning Regulation of Satellite Earth Stations*, 11 FCC Rcd 19276, 19295 (1996).

²⁴⁸ See, e.g. smaller antennas could be made available to consumers but unless other space station parameters were tailored to operate with these smaller diameter antennas, the availability of the signal could be reduced, thereby eroding the quality of service to some customers.

strongly encourage DBS operators to provide comparable DBS service to Alaska and Hawaii in terms of receive earth station antenna size with the rest of the contiguous United States, to the extent technically feasible.

69. Finally, we note that both EchoStar and DIRECTV are now providing service to Hawaii and parts of Alaska with receive antenna diameters under one meter.²⁴⁹ We believe that market forces provide an incentive for each DBS operator to compete on antenna properties, signal quality and programming options in each geographic market. This competition might lead to improved levels of DBS penetration and service to traditionally underserved areas. With future satellite launch and anticipated improvements in spot-beam technology, transmit power levels and bandwidth efficiency that the level of service to both States might continue to improve. Accordingly, we do not believe that adopting a requirement for equivalent receive antenna size is necessary or likely to be effective to achieve the stated goals of Alaska and Hawaii without unduly burdening the DBS operators at this time.

70. Based on the filings earlier this year, neither DBS provider offers a package of services to Alaska and Hawaii comparable to what the provider offers to CONUS.²⁵⁰ Alaska and Hawaii ask that we clarify or expand upon our rule stating that “those acquiring DBS authorizations . . . must provide service to Alaska and Hawaii where such service is technically feasible”²⁵¹ by specifying exactly what “service” DBS providers must offer in these states.²⁵² Hawaii, for example, asserts that to comply with the Commission’s geographic service rules, DBS providers must offer the same “core-CONUS” programming to Hawaiians and Alaskans as is offered to Mainland subscribers. Hawaii urges the Commission to find that marginal niche programming is insufficient and that although the programming does not have to be identical, it must be of equal value to that provided in CONUS.²⁵³

71. We are concerned that the commenters’ proposals could place the Commission in the position of conducting a program-by-program content comparison of service offerings in Alaska and Hawaii and the Mainland, which could have First Amendment implications. Likewise, we will not mandate rules concerning equivalent cost of equipment or service offerings. It is in each DBS operator’s best interest to keep the combined cost of equipment and service competitive with the total cost of other MVPD options and affordable to the consumer. We anticipate that competition will help ensure enhanced program offerings and competitive pricing and we expect that that DBS operators will use market considerations to maximize potential revenue given their payload limitations, coverage possibilities from a particular

²⁴⁹ In Hawaii, EchoStar is providing service from the 119° W.L. location with a 24-inch receive antenna. A single-antenna option is not yet available for subscriber access to programming packages requiring multiple satellite access. At present, two antennas are required. *See Ex Parte Comments of Hawaii at 3.* DIRECTV very recently began offering service from its 101° W.L. location with a 29x39-inch oval antenna, and limited programming from its 119° W.L. orbital location with an 18-inch antenna. In parts of Alaska, both EchoStar and DIRECTV offer services with antenna diameter ranging from 30 inches to 70 inches. *See Presentation from Tom Brady, DBS Service in Alaska and Hawaii.*

²⁵⁰ Letter from Herb E. Marks, Counsel for the State of Hawaii to Commissioner Kevin J. Martin (dated January 11, 2002).

²⁵¹ 47 C.F.R. §100.53(b).

²⁵² Comments of Hawaii and Alaska.

²⁵³ Comments of Hawaii (April 6 1998); Letter form Herb E. Marks, Counsel for the State of Hawaii and Robert M. Halperin, Counsel for the State of Alaska to Thomas Tycz, Chief, Satellite and Radiocommunications Commission (dated July 14, 2000). *See also* <http://www.dishnetwork.com>, America’s Top 100 is offered in Hawaii (visited April 30, 2001).

location, and the market potential in a specific area. Consumer choice and buying power should provide sufficient motivation for DBS operators to provide a wide array of programming comparable to that available on the Mainland.

72. Nonetheless, we remain concerned that the DBS service available to residents of Alaska and Hawaii is significantly different from that provided in the Mainland 48 states, and we agree that our requirement that DBS providers “provide service to Alaska and Hawaii” must have meaning. We therefore clarify that we will consider a DBS provider to be in compliance with this requirement only if it offers packages of services in Alaska and Hawaii that are reasonably comparable to what the provider offers in the contiguous 48 states.²⁵⁴

73. *Off-Shore States Policy.* In response to the *Notice*, the State of Hawaii requested that the Commission consider adopting an “off-shore states” policy when awarding DBS channels at the eastern orbital positions.²⁵⁵ This policy would require licensees of DBS channels at eastern orbital positions to demonstrate that they have provided service to the States of Alaska and Hawaii before they would be eligible to provide service from any eastern DBS channel assignments beyond their existing assignments.²⁵⁶ Hawaii argues that the off-shore policy is necessary because the CONUS market will become saturated and leave DBS providers little incentive to expand to Alaska and Hawaii.²⁵⁷

74. A majority of industry commenters contend that the off-shore policy suggested by Hawaii is unnecessary and would unduly restrict a “still evolving DBS industry.”²⁵⁸ DIRECTV believes that a “more restrictive ‘off-shore states’ policy” like that proposed by Hawaii is not the answer to the service problem of getting DBS service to Hawaii because it “may in fact undermine the public interest by placing artificial constraints on DBS service development and expansion.”²⁵⁹ EchoStar opposes requiring DBS licensees to demonstrate service to Alaska and Hawaii before expanding service from their eastern orbital locations because this would prevent DBS operators from providing a full range of cable-competitive programming.²⁶⁰ EchoStar suggests that if the Commission does establish a rule requiring existing DBS operators to serve Alaska and Hawaii, it urges that it be allowed to do so from either its western or eastern positions.²⁶¹ DIRECTV emphasizes that the Commission “must be careful not to adopt inadvertently a requirement that would penalize current DBS systems that use satellites that are not configured technically to provide full Alaska and Hawaii service.”²⁶² Furthermore, DIRECTV encourages

²⁵⁴ This requirement is subject to the technical feasibility provisions of new §25.148 (c). Because of the additional guidance regarding compliance with our rule set out in this Order, DBS providers will not be subject to liability in any possible enforcement action until 60 days after this guidance is published in the Federal Register.

²⁵⁵ Comments of Hawaii at 4. *See also DBS Auction Order* at n. 80.

²⁵⁶ Comments of Hawaii at 4. *See also DBS Auction Order*.

²⁵⁷ Comments of Hawaii at 4.

²⁵⁸ Reply Comments of EchoStar at 10; Reply Comments of Primestar at 9.

²⁵⁹ Reply Comments of DIRECTV at 5.

²⁶⁰ Comments of EchoStar at 11-12.

²⁶¹ *Id.* at 11.

²⁶² Reply Comments of DIRECTV at 5.

the Commission to take into account the technical limitations at each location when adopting rules affecting eastern orbital locations.²⁶³

75. The main purpose of the proposed off-shore policy would be to provide service to Alaska and Hawaii using the eastern orbital locations. Because both major DBS licensees are providing service to the States of Hawaii and Alaska, we find that the underlying policy objectives of Hawaii's proposal are met by our existing geographic service rules, as modified in this order, and that it is unnecessary to adopt any further requirements. In addition, all of the eastern channels have been assigned with the exception of two channels at the 61.5° W.L. orbital location and those channels cannot serve Alaska and Hawaii due to elevation angle constraints (*i.e.* beyond the line of sight).

76. *Service to Puerto Rico and the Virgin Islands.* Our current geographic service requirements apply only to Alaska and Hawaii.²⁶⁴ The *Notice* sought comment on whether it was necessary to adopt similar measures in order to promote service to Puerto Rico and other U.S. territories and possessions.²⁶⁵ DIRECTV and Loral state that, while service to Puerto Rico and the U.S. Virgin Islands is a very important goal, they believe that rules requiring service are unnecessary because providers will naturally look to new markets to expand.²⁶⁶ Echostar argues that with the currently available technology, further expansion of the DBS geographic service requirements could in fact result in deterioration of service to Alaska and Hawaii.²⁶⁷ Echostar states that the Commission should take into account the inherent technical limitations of current geostationary satellites, which allow service to geographic regions of a finite size and that these features generally permit currently available satellites to provide optimized service either to Puerto Rico or to Alaska and Hawaii – but not both.²⁶⁸ In the event that the Commission adopts service rules for Puerto Rico, DIRECTV strongly urges the Commission to apply them only to new DBS permittees or licensees where such service is technically feasible.²⁶⁹ Puerto Rico did not file comments in this proceeding.²⁷⁰

77. Unlike Alaska and Hawaii, Puerto Rico is located relatively close to the contiguous United States. Based strictly on line-of-sight considerations, it is reasonable to conclude that some level of service to Puerto Rico should be possible from the three CONUS and the eastern orbital locations, *i.e.*, 61.5° W.L. 101° W.L., 110° W.L. and 119° W.L.²⁷¹ Moreover, two U.S. orbital locations (101° W.L.

²⁶³ *Id.* at 7.

²⁶⁴ See *DBS Auction Order* at ¶ 125. *Notice* at ¶ 34.

²⁶⁵ *Notice* at ¶ 34.

²⁶⁶ Comments of DIRECTV at 19; Reply Comments of DIRECTV at 7; See also Comments of Loral at 4. Loral urges the Commission to continue to permit each DBS operator to use its discretion to develop its DBS assets as the market will permit.

²⁶⁷ See Ex Parte Comments of EchoStar.

²⁶⁸ *Id.* at 1.

²⁶⁹ Comments of DIRECTV at 20.

²⁷⁰ The Commission received several emails from residents of Puerto Rico (*e.g.*, Raoul Le Hardy, Mercedita, PR; Luis Torres, Toa Baja, PR; Luis F. Jimenez, Arecibo, PR; and Mr. Hernandez, Rio Piedras, PR) requesting that we take action to promote increased DBS service to the region. See Memorandum of Federal Communications Commission, International Bureau, from Chris Murphy (filed on April 21, 1998).

²⁷¹ Puerto Rico and the Virgin Islands can receive signals from satellites at the 61.5° W.L. and 101° W.L. locations at elevation angles well in excess of 10°, the minimum necessary for DBS service. See *supra*. An earth (continued....)

and 110° W.L.) have beams in the Region 2 BSS and feeder-link Plans intended for the provision of service to Puerto Rico and the U.S. Virgin Islands.²⁷²

78. The BSS Plan beam characteristics, however, were established based upon the technical data of Annex 5 to Appendix 30, and assume a receive earth station antenna diameter of approximately 1 meter,²⁷³ considerably larger than the 45 cm dishes routinely available to CONUS customers. Smaller receive earth stations can be used if the transmit power from the satellite is increased,²⁷⁴ but this approach is not necessarily feasible in the Caribbean region. Due to its relatively small geographic area and close proximity to neighboring Caribbean countries, it is not possible to serve Puerto Rico without illuminating the territories of nearby Administrations. The International Radio Regulations have provisions designed to protect both the BSS Plan assignments and terrestrial systems of neighboring Caribbean countries from interference that might result from modifications to the Region 2 BSS and feeder-link Plans.²⁷⁵ These provisions limit the amount of power that a U.S. DBS system can provide to serve Puerto Rico, and in particular constrain their ability to provide service at power levels comparable to those used over CONUS.²⁷⁶ Finally, we recognize that Puerto Rico is located in an ITU-defined rain climactic zone that has some of the world's highest rainfall rates.²⁷⁷ High rainfall rates further hamper DBS service and the degree of rain attenuation experienced in Puerto Rico hinders use of receive-antenna diameters comparable to those used in CONUS.²⁷⁸

79. In order to comply with the Commission's requirement to serve Alaska and Hawaii, DBS licensees have had to modify the beam characteristics specified in the Appendices 30 and 30A BSS and

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station located in Puerto Rico (18° N, 66° W) can see satellites located at 61.5° W.L. and 101° W.L. at elevation angles of 68.25° and 45.0°, respectively. The elevation angles from 110° W.L. and 119° W.L. are 36° and 27° respectively.

²⁷² See the Region 2 BSS and feeder-link Plans, contained in Article 10 of Appendix 30 and Article 9 of Appendix 30A.

²⁷³ See Section 3.7.1 of Annex 5 to Appendix 30. The Region 2 BSS Plan assumes an antenna half-power beamwidth of 1.7°. For a circular antenna operating at 12.45 GHz, with a 55% efficiency factor, this translates to an antenna diameter of 0.99 meters.

²⁷⁴ A decrease in receive-antenna diameter from 1 meter to 60 cm results in a 4.4 dB gain reduction, while a decrease in receive-antenna diameter from 1 meter to 45 cm results in a 6.9 dB gain reduction. To achieve comparable signal reception, the radio frequency power at the output of the satellite antenna must be increased by an equivalent amount.

²⁷⁵ See Annex 1 to Appendix 30. If the limits in Annex 1 to Appendix 30 are exceeded by a proposed modification to the Region 2 BSS Plan, then the agreement of the affected Administration must be obtained.

²⁷⁶ For example, Section 4 of Annex 5 to Appendix 30 limits the increase in power flux-density arriving on any part of the territory of an Administration to no more than 0.25 dB over that resulting from the original plan assignment. For a 1 meter receive antenna, such a pfd increase permits a maximum reduction in diameter of approximately 3 cm (1 inch). This analysis is a best-case scenario, and does not consider other possible limiting factors such as relatively low carrier-to-interference ratios (*i.e.*, interference limited case).

²⁷⁷ See Section 2.2.2 of Annex 5 to Appendix 30. The ITU determines the rainfall intensity (exceeded for 0.01% of an average year) to be 95 mm/hr in Puerto Rico. At an elevation angle of 30°, this introduces approximately 4.5 dB of signal attenuation.

²⁷⁸ Rainfall rates in Puerto Rico are equal to or greater than to those in South Florida. San Juan has an average rainfall rate of 84 inches per year, Miami receives an average of 55 inches per year.

feeder-link Plans.²⁷⁹ As Echostar points out, these modified systems have been optimized to provide service to CONUS, Alaska and Hawaii.²⁸⁰ To increase power levels available over the Caribbean, transmit power must necessarily be diverted from other regions, *i.e.*, CONUS and/or Alaska and Hawaii. Transmit power is a limited on-board resource and is typically constrained by the level of technology available when the satellite is built.²⁸¹ EchoStar asserts that providing such broad DBS coverage using currently available technology is highly problematic, even with vastly more costly satellites incorporating higher transmit power levels, larger solar arrays and optimally designed antennas, although it provides no specific support for this assertion.²⁸² Further, we cannot discount the possibility of providing such extended coverage in the future as satellite technology continues to evolve.

80. Alaska, Hawaii and Puerto Rico are at the geographic extremes of the service area defined by the satellite antenna coverage patterns. While it may be possible to provide simultaneous service to all three regions, we recognize that there are technical and economic trade-offs that could significantly impact current service to existing customers. It may not be economically reasonable or technically possible for DBS providers to serve all three areas without service deterioration to existing subscribers. At this time, we do not have sufficient evidence in the record to determine to what extent it is technically and economically feasible to provide service simultaneously to Alaska, Hawaii and to Puerto Rico and other U.S. territories in the Caribbean. We are, however, concerned that adopting rules requiring DBS providers to provide such Caribbean service could adversely affect the provision of DBS service to Alaska and Hawaii. At the present time, EchoStar is providing some service to Puerto Rico from its Echo-V satellite at 110° W.L. and the Echo-VI satellites at 119° W.L.²⁸³ EchoStar points out, however, that its satellites are designed and operated to optimize DBS service in CONUS, Alaska and Hawaii. In addition, Puerto Rico is currently receiving other satellite delivered video programming. Galaxy Latin American DIRECTV²⁸⁴ currently provides DTH service to Puerto Rico and other providers offer conventional C/Ku-band DTH programming packages as well.²⁸⁵ Because Puerto Rico is currently receiving both DBS and DTH-FSS service, the situation is quite different from that of Hawaii and Alaska in 1995 when the Commission adopted geographic service requirements when no service was provided to either State.²⁸⁶ DBS and DTH video service is now, and we believe will continue to be, provided to Puerto Rico and other U.S. territories without further Commission rules. Puerto Rico's estimated

²⁷⁹ See, e.g., DIRECTV Application for Authority to Launch and Operate a Replacement Direct Broadcast Satellite Service Space Station, SAT-LOA-1990331-00035 (filed March 31, 1999).

²⁸⁰ See Ex Parte Comments of EchoStar at 2 (dated March 14, 2001) (“*Ex Parte Comments of EchoStar*”). Due to the resulting limited power of the satellites, subscriber antennas required in Puerto Rico range from 1.2 to 2.4 meters, although typically a 1.8 meter antenna is adequate.

²⁸¹ Among other factors, the levels of radiated power are influenced by the size and efficiency of the solar array panels, the power of the final amplifier stages and the gain and size of the transmit antennas.

²⁸² See Ex Parte Comments of EchoStar at 2.

²⁸³ See <http://www.dishnetwork.com> (visited March 15, 2001).

²⁸⁴ *Sky Report* (July 23, 1999) <http://www.skyreport.com/skyreport/dth_hist.htm#1999. Latin America DIRECTV service is available in various Caribbean island nations via Galaxy satellites at 95° W.L. See also 1999 PR Newswire Association, Inc. (July 29, 1999).

²⁸⁵ See <http://www.carneri.com>; <http://www.coqui.net/nzsatser>; and <http://www.4dtv.com>.

²⁸⁶ See *DBS Auction Order* at ¶125.

population is 3,889,507 and is a potentially large customer base for DBS providers.²⁸⁷ We believe that as a result of market forces, DBS providers will continue to expand their subscriber bases and that providers recognize Puerto Rico as an important market to serve.

81. Although some level of service to Puerto Rico and the U.S. Virgin Islands should be possible from the CONUS and eastern orbital locations (*i.e.*, 119° W.L., 110° W.L., 101° W.L. and 61.5° W.L.) the ability to serve Puerto Rico will be greatly limited by the factors discussed above. In light of the range of technical, regulatory and cost factors that constrain their ability to offer DBS service to the Caribbean region, we believe that satellite operators are in the best position to evaluate and choose among the many inter-dependent design/cost trade-off options. We also believe that operators should be permitted maximum flexibility to determine satellite design and resulting level of service that can realistically be provided.

82. *Deletion of 100.53(a)*. In the *Notice* the Commission proposed to eliminate Section 100.53(a) of the Commission's rules, which requires licensees to relinquish their western channels if they do not provide service to Alaska or Hawaii before the end of their current authorizations.²⁸⁸ The Commission concluded that Section 100.53(a) is unclear and potentially runs counter to the Commission's purposes.²⁸⁹ The *Notice* stated that this Section could easily be misinterpreted as permitting DBS licensees with eastern orbital locations to maintain their authorizations at western orbital locations, even if they do not provide service from such western channels. The intent of Section 100.53 was to ensure that DBS licensees provide service to Alaska and Hawaii, where it is technically feasible for them to do so.²⁹⁰ As stated in the *Notice*, Section 100.53(a) can be interpreted many ways that undermine the goals of Section 100.53. A licensee that is operating from an eastern orbital location could interpret section 100.53(a) to permit warehousing of western channels. Under another interpretation of Section 100.53(a), an entity holding authorizations for both eastern and western channels might argue that its western channel authorization would remain valid during its ten-year license term for its eastern channels even if it were not using its western channels. Its argument might be that, pursuant to Section 100.53(a), it would not need to relinquish its western channels unless and until its ten-year license expired and it had not provided service to Alaska and Hawaii. If a licensee originally received authorization for eastern and western channels at the same time, such a licensee could, under this interpretation argue that it could maintain its authorization for its western channels for up to 16 years, 6 years to launch and operate its satellite at its eastern channels plus the ten-year operating license term, even if during such time it never used its western channels.²⁹¹

83. We believe that Section 100.53(a) of the Commission's rules adds little to our underlying policy objective to encourage service to Alaska and Hawaii and furthermore, that it may be unclear and confusing. As described extensively in the *Notice*, the rule can be misinterpreted.²⁹² More importantly, we find that Section 100.53(a) is unnecessary in light of the fact that it is based on the prior east/west orbital location channel pairing policy that the Commission eliminated in the *DBS Auction Order*.²⁹³ The

²⁸⁷ See <http://www.consensus.gov/population/estimates/puerto-rico>.

²⁸⁸ *Notice* at ¶ 35.

²⁸⁹ *Id.* at ¶ 36.

²⁹⁰ *Id.*

²⁹¹ *Id.*

²⁹² *Id.*

²⁹³ *DBS Auction Order* at ¶ 124.

east/west pairing was originally implemented in order to ensure service to the United States from at least 128 channels at a time when full-CONUS satellite operations were untested. The Commission concluded in the *DBS Auction Order* that the east/west channel pairing policy was no longer necessary because DBS permittees could provide full-CONUS service from two half-CONUS locations.²⁹⁴ Therefore, we find that a rule based on these pairings is no longer appropriate or necessary. Moreover, since this section was adopted, the DBS landscape has changed significantly.²⁹⁵ In the last several years, several DBS companies have relinquished their western channel assignments.²⁹⁶ In addition, both major DBS providers have announced Alaskan and Hawaiian service. Based on our experience, we find that our current rule concerning DBS milestones will ensure that valuable orbital resources (*i.e.* the western orbit allocations) will not be warehoused. For the reasons stated above, we will eliminate Section 100.53(a) of the Commission's rules.

84. *DTH-FSS*. Hawaii urges the Commission to extend the DBS geographic service requirements to all MVPD service satellite providers, including those FSS operators that lease capacity for DTH (both in the Ku- and Ka-bands).²⁹⁷ PanAmSat opposes this proposal,²⁹⁸ arguing that taking such action would be outside the scope of the *Notice* and would therefore, violate the Administrative Procedure Act.²⁹⁹ PanAmSat also points out that the Commission decided not to impose such an obligation on geostationary-satellite orbit ("GSO") Ka-band systems,³⁰⁰ and argues that the imposition of geographic service requirements on DTH providers would result in significant economic and other costs.³⁰¹

²⁹⁴ *DBS Auction Order* at ¶ 123. The east/west pairing was originally implemented in order to assure service to the United States from at least 128 channels at a time when full-CONUS satellite operations were untested.

²⁹⁵ See *USSB/DIRECTV Order* where the International Bureau authorized the transfer of five DBS channels at 101° W.L. and three channels at 110° W.L. See also *MCI Application for Review* where the Commission affirmed a Bureau Order granting consent to assign MCI's authorization using 28 channels at 110° to EchoStar. See also *Dominion Order* where the International Bureau granted Dominion authority to commence operation of a DBS service on its assigned channels (25-32) at the 61.5° W.L. using EchoStar 3 which is operating at that location. See *Primestar Order* where the International Bureau granted Tempo authorization to assign 11 channels at the 119° W.L. to DIRECTV.

²⁹⁶ See Public Notice: International Bureau Satellite Policy Branch Information, Report No. SPB-138a, September 15, 1998 (where RL/DBS Company LLC voluntarily surrendered its western channel assignments at the 166° W.L. orbital location); see Public Notice: International Bureau Satellite Policy Branch Information, Report No. SPB-127, June 10, 1998 (where DIRECTV and Tempo Satellite, Inc. voluntarily surrendered their western channel assignments at the 157° W.L. 166° W.L. orbital locations); see Public Notice: International Bureau Satellite Policy Branch Information, Report No. SPB-127, June 10, 1998 (where USSB II a wholly-owned subsidiary of United States Satellite Broadcasting voluntarily surrendered their western channel assignments at the 148° W.L. orbital locations).

²⁹⁷ Comments of Hawaii at 5 and Ex Parte Comments Hawaii at 2.

²⁹⁸ Reply Comments of PanAmSat at 2.

²⁹⁹ *Id.* at 3.

³⁰⁰ *Id.* See *In the Matter of Rulemaking to Amend Parts, 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multi Point Distribution Service and for Fixed Satellite Service*, 12 FCC Rcd 22310 (1997)("Ka-band Order").

³⁰¹ Reply Comments of PanAmSat at 3. Specifically, PanAmSat states that if satellite operators were required to ensure that all Ka-band transponders used to provide DTH services are required to serve Alaska and Hawaii, the (continued....)

85. We will not adopt geographic service rules for DTH-FSS providers that serve the contiguous United States. Although we strongly encourage all DTH-FSS providers that have a footprint on the States of Alaska and Hawaii and Puerto Rico to provide service to these areas, we believe it would be inadvisable to require them to do so. FSS licensees typically lease transponder capacity to a DTH video service provider that in turn offers service to subscribers. Requiring the lessor to impose geographic service obligations on the lessee could pose significant regulatory difficulties. Further, the Commission cannot mandate the existence of a DTH-FSS service provider in a given geographic area, nor can we force the FSS operator to lease capacity to any particular service provider (*e.g.*, a provider serving subscribers in Alaska). Additionally, we have already licensed significant numbers of C- and Ku-band FSS satellites³⁰² and the majority of these satellites are now in operation. Some Ka-band FSS satellites are in advanced stages of design as prescribed by the Commission's milestone requirements.³⁰³ To now impose a requirement to serve Alaska and Hawaii would be impractical.

86. Today's C- and Ku-band satellites provide a wide range of services, with DTH comprising only a small portion of transponder traffic.³⁰⁴ Typically C- and Ku-band DTH-FSS satellites are meeting specialized programming needs (*e.g.*, foreign language programming) and satisfying other niche-markets. In some traditionally under served markets, DTH-FSS remains a realistic alternative to cable service.³⁰⁵ We believe that, in light of the relatively small portion of transponder capacity devoted to DTH-FSS services, imposing geographic service requirements could create a situation where it is no longer cost-effective for operators to offer such services. Rather than advancing our goal of increasing service options to underserved markets, such a policy could ultimately hinder it.

87. In addition, the BSS and FSS have very different regulatory and operating environments. The service area and other operating parameters of DTH-FSS satellites are not pre-determined by international plan, but rather are designed uniquely for each satellite by its operator. The ability to ultimately operate the satellite with the parameters reflected in the initial ITU filing depends largely on the outcome of the coordination process with other Administrations. This FSS coordination process can take many years to complete, is often highly complex, and its outcome cannot be fully predicted. These factors make it virtually impossible for the Commission to make an advance determination regarding the technical feasibility of serving Alaska and Hawaii with an FSS network. Once complete, the terms of the coordination agreements are proprietary. Forcing the FSS licensee to publicly reveal the terms of a coordination agreement in a technical showing to the Commission could place them at a competitive disadvantage. Moreover, with regard to non-U.S. licensed FSS satellites, the Commission will not have

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operator would either have to make all transponders capable of serving Alaska and Hawaii regardless of the costs involved or deny transponders owners/lessees the right to use the transponders for DTH service.

³⁰² See *In the Matter of Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, In the Matter of the Applications of American Telephone and Telegraph Company, EchoStar Satellite Company, GE American Communications, Hughes Communications Galaxy, Inc. Loral Space and Communications Ltd., Orion Network Systems, Inc.*, 11 FCC Rcd 13788 (1996).

³⁰³ See, *e.g.*, Letter from Peter A. Rohrbach, Counsel for ASTROLINK International LLC, to Ms. Fern Jarmulnek, Deputy Chief, Satellite Division (dated April 10, 2002).

³⁰⁴ DTH-FSS systems require a much larger diameter antenna than DBS systems due to the constraints of operating in a 2-degree spacing environment. Antenna diameter is a key marketing element, and DTH-FSS systems have not been able to attract a customer base comparable to that of DBS systems that operate with much smaller diameter antennas in a 9-degree or better orbital spacing environment.

³⁰⁵ For example, Puerto Rico is receiving DTH-FSS service from DIRECTV Latin America via the FSS Galaxy VIII-i satellite at 95° W.L. orbit location

access to the complete coordination record³⁰⁶ creating the potential for disparity in our technical review and treatment of U.S. and non-U.S. licensed satellites seeking to provide DTH-FSS service to the U.S.

88. Our rationale for mandating service to Alaska and Hawaii from DBS satellites was based upon the finite number of U.S. BSS orbital locations in Region 2.³⁰⁷ At the time the DBS channel pairing policy was established, the U.S. assignments at these eight U.S. locations represented the only near-term option for U.S. DBS service to the far western States of Alaska and Hawaii. The situation is not the same for DTH-FSS service. Unlike the planned BSS operations, the FSS operator might operate a satellite from a wider range of orbital locations, subject to the coordination and notification procedures of Articles 9 and 11 of the Radio Regulations.³⁰⁸ The portion of the geostationary satellite arc that is suitable for Ku-band full CONUS coverage extends between approximately 60° W.L. and 130° W.L.³⁰⁹ We find that at a minimum, service to Alaska and Hawaii should be possible from orbital locations west of 101° W.L. to approximately 160° E.L.³¹⁰ affording considerably more opportunities to provide FSS service to Alaska and Hawaii than exist under the DBS Region 2 Plan for U.S. service.

89. Finally, the record in this proceeding is insufficient to support imposing geographic service requirements on FSS operators providing DTH service. In addition, the Commission lacks a workable definition of the term DTH that uniquely distinguishes it from other FSS services. Considering the many regulatory and operational disparities that exist between the DBS and FSS services and the fact that FSS operators are not the actual service providers but instead are lessors of satellite capacity, we will not impose geographic service on DTH FSS service operators that provide service to subscribers in the United States.

90. *Non-U.S. Licensed Satellites.* We recognize that the satellite industry as a whole is becoming more global in nature. In an order adopted in 1997, the Commission implemented a framework under which a satellite licensed by a foreign country could serve the U.S. market consistent with U.S. commitments under the WTO Basic Telecom Agreement.³¹¹ The United States did not make market access commitments with respect to DBS.³¹² However, the United States has reached agreement with

³⁰⁶ The Commission will have access only to those coordination agreements between the Administration of the foreign-licensed satellite and the U.S. government. In addition, to serve the U.S., it is not necessary that the foreign-licensed satellite have completed all ITU-required coordination. Coordination is required with U.S. satellites, and with foreign satellites providing U.S. service, consistent with our two-degree spacing requirements.

³⁰⁷ In Region 2, the eight U.S. orbital positions, proceeding from east to west are 61.5° W.L., 101° W.L., 110° W.L., 119° W.L., 148° W.L., 157° W.L., 166° W.L., and 175° W.L.

³⁰⁸ Article 9 deals with procedures for effecting coordination with, or obtaining agreement of, other Administrations. Article 11 establishes procedures for notification and recording of frequency assignments.

³⁰⁹ See *In the Matter of Licensing of Space Stations in the Domestic Fixed-Satellite Service and Related Revisions of Part 25 of the Rules and Regulations*, 94 FCC 2d 129 (1983).

³¹⁰ From 160° E.L., the elevation angle to Hawaii is 37° and to Anchorage it is nearly 10°. Service to Hawaii alone is possible from as far west as 132° E.L. From 101° W.L. elevation angles to Hawaii and Anchorage are 22.5° and 10°, respectively.

³¹¹ See *DISCO II*, 12 FCC Rcd 24094.

³¹² Generally, General Agreement on Tariffs and Trade (GATS) requires WTO Member Nations to afford MFN treatment to all other WTO Member Nations. "With respect to any measure covered by this Agreement, each Member shall accord immediately and unconditionally to services and service suppliers of any other Member treatment no less favorable than that it accords to like services and service suppliers of any other country." GATS Article II, para. 1. Member nations are permitted to take "MFN exemptions," however, under certain (continued....)

Mexico and Argentina to permit DBS and DTH service to each other's territories.³¹³ Additionally, the United States could potentially negotiate mutual, market access agreements with other nations in the future. Therefore, we anticipate that Mexico and Argentina as well as other non-U.S. licensed satellites, could provide DBS service to U.S. consumers. Given these considerations, the *Notice* asked whether there are additional steps the Commission should take to ensure delivery of service to Alaska and Hawaii.³¹⁴ In response, Hawaii urges the Commission to apply its geographic coverage rules to foreign-licensed DBS satellites providing services to the United States.³¹⁵ Hawaii emphasizes that foreign-licensed DBS satellites may provide the only near term option for DBS service to Hawaii.³¹⁶

91. Under the *DISCO II* decision, we will impose the same service obligations on operators of non-U.S.-licensed satellites that provide DBS service in the United States as we impose on U.S.-licensed operators.³¹⁷ In *DISCO II* we stated that:

We will require non-U.S. satellite operators to comply with all Commission rules applicable to U.S. satellite operators. To do otherwise would place U.S. and foreign operators on uneven competitive footing when providing identical satellite service in the United States and would defeat our public policy objectives in adopting these service rules in the first place.³¹⁸

92. Non-U.S.-licensed DBS operators will have the burden of showing that serving Alaska and Hawaii is technically infeasible. We will not however, impose geographic service obligations on non-U.S.-licensed FSS providers of DTH service because U.S. FSS licensees are not so obligated. We conclude that if non-U.S.-licensed satellites are not subject to the same requirements, they will have an unfair competitive advantage over domestic licensees.

93. *Interoperable Design.* USSB and Microcom express concern that consumers should not be required to buy or lease two or more devices in order to receive DBS signals from the same orbital location.³¹⁹ USSB and Microcom recommend that the Commission require DBS licensees located at the same orbital locations to coordinate the development of their systems, as USSB and DIRECTV have done.³²⁰ They argue that adoption of an interoperable equipment policy would make certain that DBS

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circumstances specified in an annex to GATS. See GATS Annex on Article II Exemptions. The United States has taken such exceptions with respect to DBS, DTH, and Digital Audio Radio Services (DARS).

³¹³ See *Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Direct-to-Home Satellite Services in the United States of America and United Mexican States* (November 8, 1996), Article VI ("Mexican Protocol"). See also *Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Direct-to-Home Satellite Services and Fixed-Satellite Services in the United States of America and the Argentine Republic*, June 5, 1998 ("Argentine Protocol").

³¹⁴ *Notice* at ¶ 34.

³¹⁵ Ex Parte Comments of Hawaii at 2.

³¹⁶ *Id.*

³¹⁷ In addition, the Commission has required non-U.S.- licensed satellites that provide service into the United States to comply with the same public interest obligations that we impose on U.S.-licensed operators. See *DBS Public Interest Obligation Order*.

³¹⁸ *DISCO II* at ¶ 173.

³¹⁹ Reply Comments of USSB at 3; Comments of Microcom at 5.

³²⁰ Reply Comments of USSB at 3; Comments of Microcom at 5.

consumers can receive the maximum service from any one orbital location and that DBS consumers need not choose DBS providers at an orbital location on the basis of equipment pricing or technological barriers.³²¹

94. Because most DBS operators are already providing service and their equipment designs are in place, we will not mandate interoperable equipment at this late stage. We recognize that it would be a great financial burden for manufacturers to redesign equipment to make DBS receivers interoperable. Moreover, by allowing flexibility in the design of DBS equipment we will encourage innovative design and advancements in technology.³²²

B. Competitive Bidding

95. The *Notice* proposed to eliminate the DBS specific competitive bidding rules in Part 100 and rely on the general competitive bidding rules in Part 1 of the Commission's rules.³²³ The *Notice* also sought comment on whether DBS has service-specific issues that warrant the establishment of any rules different from the general competitive bidding rules. Specifically, the Commission proposed moving Section 100.71,³²⁴ which establishes the auction authority for DBS, to Part 25 and create a new Section 25.148(d) of the Commission's rules.³²⁵

96. The *Notice* also sought comment on whether any differences in the DBS auction rules should be maintained. There are two service-specific rules that differ from the general auction rules, the transfer disclosure requirement and the long form provision. Generally, commenters do not support the Commission's proposal to eliminate the DBS-specific auction rules³²⁶ stating that the general competitive bidding rules are a broad-brush approach that might not capture all the unique characteristics of the DBS service.³²⁷

97. Since the adoption of the *Part 100 Notice*, the Commission adopted the *Part 1 Fifth Report and Order*³²⁸ clarifying and amending the general competitive bidding rules.³²⁹ In this Order, the

³²¹ Reply Comments of USSB at 4.

³²² See *Implementation of Section 304 of the Telecommunication Act of 1996, Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775 (1998) at ¶¶ 22, 64-66 (Section 629 (47 U.S.C. §549), concerning commercial availability of navigation devices, applies to MVPDs including DBS, and the rules recognize "that DBS reception equipment is already nationally portable and commercially available").

³²³ *Notice* at ¶ 37.

³²⁴ 47 C.F.R. § 100.71 states that "[T]he general competitive bidding procedures found in part 1, subpart Q of this chapter, will apply unless otherwise provided in this part."

³²⁵ *Notice* at ¶ 38. See new § 25.148(d).

³²⁶ See Comments of DIRECTV at 21; Comments of EchoStar at 8; Comments of PanAmSat at 4; Comments of USSB at 4-5.

³²⁷ Comments of EchoStar at 8 and Comments of DIRECTV at 21. See also Comments of USSB at 4-5 (USSB argued that the decision to select licensees through auction should be "reconsidered and discontinued"). These comments were outside the scope of the *Part 100 Notice* and will not be considered as part of this proceeding.

³²⁸ See *Amendment of Part 1 of the Commission's Rules — Competitive Bidding Procedures*, Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making, 15 FCC Rcd 15293 at ¶ 78 (2000) (modified by Erratum, DA 00-2475 (rel. Nov. 3, 2000)) ("*Part 1 Fifth Report and Order*") (recons. pending).

Commission observed that the rule modifications adopted in the various Part 1 orders would result in discrepancies and/or redundancies between certain of the new Part 1 rules and existing service-specific rules, and the Commission delegated to the Wireless Telecommunications Bureau (“Wireless Bureau”) the authority to make conforming edits to the Code of Federal Regulations consistent with the rules adopted in the *Part 1* proceeding.³³⁰ The Wireless Bureau subsequently issued an order making conforming edits to the service-specific competitive bidding rules in accordance with the *Part 1 Fifth Report and Order*.³³¹ The Wireless Bureau’s *Conforming Edits Order*³³² modified the DBS competitive bidding rules in Part 100 in a manner similar to the proposal in this proceeding. With respect to the Part 100 rules, the *Conforming Edits Order* eliminated all redundant Part 100 competitive bidding rules³³³ and retained the service-specific rules that are located in Part 100.³³⁴

98. We agree with commenters that there are some service-specific rules that should be retained. As such, we retain only the DBS specific competitive bidding rules in Part 100³³⁵ and apply otherwise the Part 1 general auction rules to DBS.³³⁶ The general competitive bidding rules were established to standardize the Commission’s method of competitive bidding. Therefore, we move the service specific sections from Part 100 to Part 25 of the Commission’s rules and apply the Part 1 auction rules.³³⁷ By this action, we eliminate unnecessary and redundant rules that are located in other sections of the Commission’s rules. Therefore, we will apply the general competitive bidding rules in Part 1 of the Commission’s rules and move Sections 100.71 and 100.77 to Part 25.³³⁸

99. The transfer disclosure requirement for Section 100.80 of the Commission’s rules has a six-year disclosure period while the general auction rules have a three-year disclosure period as reflected in Section 1.2111.³³⁹ The DBS transfer disclosure provision requires any entity that acquires a DBS license through competitive bidding and seeks to transfer its license within six years of the initial license grant to

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³²⁹ See also *Amendment of Part 1 of the Commission’s Rules — Competitive Bidding Procedures, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use*, Third Report and Order and Second Further Notice of Proposed Rule Making, 13 FCC Rcd 374 (1997) (modified by Erratum, DA 98-419 (rel. March 2, 1998) (“*Part 1 Third Report and Order*”). In the *Part 1 Third Report and Order*, the Commission streamlined its auction procedures by adopting general competitive bidding rules applicable to all auctionable services.

³³⁰ *Part 1 Fifth Report and Order* 15 FCC Rcd at 15330 ¶ 78.

³³¹ See *In the Matter of Amendment of Parts 21, 22, 24, 25, 26, 27, 73, 80, 90, 95, 100, and 101 of the Commission Rules - Competitive Bidding*, WT Docket No. 97-82, 2001 Biennial Regulatory Review, Order, DA 02-847 (released April 11, 2002) (“*Conforming Edits Item*”).

³³² *Id.*

³³³ *Id.* See, e.g. §§100.71-100.76, 100.78-100.79.

³³⁴ See, e.g. § 100.71 (which establishes auction authority for DBS); § 100.77 (once a winning bidder has made its down payment, the Commission will use the long-form satellite service application); and § 100.80 (transfer disclosure).

³³⁵ Eliminate §§100.72-80.

³³⁶ See *Conforming Edits Item* .

³³⁷ 47 C.F.R. § 100.77

³³⁸ New § 25.148 (d) and (e).

³³⁹ 47 C.F.R. § 1.2111(a); citing *Notice* at ¶ 42.

file with its transfer application, the associated transfer agreement, and other related agreements regarding the transfer, including the purchase price.³⁴⁰ The reporting requirements enable the Commission to monitor more closely the degree to which the Commission is complying with Congress' directive in Section 309(j)(3)(B) to ensure that "new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants...."³⁴¹ We will apply the Commission's Part 1 transfer disclosure rule to DBS. We believe that a three-year disclosure period is not only consistent with the Commission's general competitive bidding rules but also provides sufficient time to assist the Commission in keeping track of all transfers of licenses issued via auctions.³⁴² Therefore, we eliminate Section 100.80 of the Commission's rules and apply the Part 1 three-year transfer disclosure provision.

100. The long form provision set forth in Section 100.77 of the Commission's rules requires winning bidders to submit information describing the type of service that will be provided, the technology that will be employed, specific frequencies and orbital positions. In addition, the winner is required to file information describing its technical and operating parameters. This information is specific to DBS and therefore we retain the long-form requirement for DBS auction winners. We will move Section 100.77 to Part 25.

101. In authorizing the Commission to use competitive bidding, Congress mandated that the Commission "ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services."³⁴³ In addition, Section 309(j)(3)(B) of the Act provides that in establishing eligibility criteria and bidding methodologies the Commission shall promote "economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."³⁴⁴ The Commission's designated entity preferences apply based on an entity's qualification as a small business.³⁴⁵ We note that minority- and women-owned

³⁴⁰ 47 C.F.R. § 100.80.

³⁴¹ 47 U.S.C. § 309(j)(3)(B).

³⁴² *See In the Matter of Implementation of Section 309(j) of the Communications Act-Competitive Bidding*, 9 FCC Rcd 2348 (1994). Transfer disclosure requirements should not be a burden on the licensees inasmuch as the documents to be submitted to the Commission will be prepared for other purposes in any event. Any competitive concerns raised by the possible disclosure of sensitive information contained in purchase agreements or similar documents can be addressed by the provision in Section 0.457 and 0.459 of our Rules providing for nondisclosure of information. 47 C.F.R. §§ 0.457 and 0.459.

³⁴³ 47 U.S.C. § 309(j)(4)(D).

³⁴⁴ 47 U.S.C. 309(j)(3)(B).

³⁴⁵ *See* 47 C.F.R. § 1.2110(a). Although the Commission previously extended designated entity preferences to minority- and women-owned businesses, as well as to small businesses, following the Supreme Court's rulings in *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995), and *United States v. Virginia, et al.*, 518 U.S. 515 (1996), the Commission concluded that it would not be appropriate to adopt special provisions for minority-owned and women-owned businesses pending the development of a more complete record on the propriety of race- and gender-based provisions for future auctions. *See Part I Fifth Report and Order*, 15 FCC Rcd at 15318-20 at ¶¶ 45-50 (discussing constitutional standards and governmental interests that would justify the use of race- or gender-based preferences).

businesses and rural telephone companies that qualify as small businesses may take advantage of the special provisions we have adopted for small businesses.³⁴⁶

102. In the *Competitive Bidding Second Report and Order*, the Commission concluded that it would determine whether to adopt designated entity preferences such as bidding credits on a service-by-service basis.³⁴⁷ In the *Competitive Bidding Second Memorandum Opinion and Order*, the Commission stated that it would define eligibility requirements for small businesses on a service-specific basis, taking into account the capital requirements and other characteristics of each particular service in establishing the appropriate threshold.³⁴⁸ The *Part 1 Third Report and Order*, while it standardizes many auction rules, provides that the Commission will continue a service-by-service approach to defining small businesses.³⁴⁹

103. In the *DBS Auction Order*, the Commission noted that having "designated entity provisions for future DBS auctions may be appropriate, particularly if it auctions spectrum in small blocks."³⁵⁰ The *DBS Notice* encouraged commenters who favor adoption of designated entity provisions to discuss whether the Commission should establish generic designated entity provisions applicable to all future DBS auctions or whether we should adopt designated entity provisions on a case-by-case basis, depending on the number of channels available at a given auction.³⁵¹ We received no comment on this issue.

104. In the past, the Commission has declined to adopt designated entity provisions for DBS.³⁵² In the *DBS Auction Order*, the Commission did not adopt a designated entity provision for the first DBS auction in large part because of the high implementation costs of satellite service and the lack of interest expressed by the potential beneficiaries.³⁵³ These circumstances have not changed. Although the Commission remains committed to providing economic opportunity and competition, avoiding excessive concentration of licenses, and ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, we conclude that there is no basis in the record for changing the DBS competitive bidding rules to adopt a designated entity provision at this time.

C. Technical Matters

105. Our goal in reviewing DBS technical rules is to ensure that they reflect today's technology and promote maximum technical flexibility for DBS licensees, while ensuring protection of DBS systems

³⁴⁶ See *Part 1 Fifth Report and Order*, 15 FCC Rcd at 15319, ¶ 48; see also FCC Report to Congress on Spectrum Auctions, WT Docket No. 97-150, *Report*, FCC 97-353 at 29 (rel. Oct. 9, 1997) (finding that special provisions for small businesses also increase opportunities for minority- and women-owned businesses).

³⁴⁷ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388-89 at ¶ 229.

³⁴⁸ *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Second Memorandum Opinion and Order, 9 FCC Rcd 7245, 7269 at ¶ 145 (1994) ("*Competitive Bidding Second Memorandum Opinion and Order*").

³⁴⁹ See *Part 1 Third Report and Order*.

³⁵⁰ *DBS Auction Order* at ¶ 217.

³⁵¹ *Id.*

³⁵² See *DBS Auction Order* at ¶ 217.

³⁵³ *DBS Auction Order* at ¶¶ 214-217.

from interference. The Commission's proposal to incorporate the Part 100 DBS rules into Part 25 presumes that many of the general technical requirements for satellite services now contained in Part 25 would be applied to the DBS service.³⁵⁴ Commenters in general support the consolidation of Part 100 into Part 25, although EchoStar cautions that the Commission should not allow the procedural simplification to cause substantive changes to the technical requirements for DBS systems.³⁵⁵ As stated above, we are adopting our proposal to consolidate Part 100 with Part 25. In the following paragraphs, we address separately each of the technical issues raised in the *Notice*, as well as those related issues raised by the commenters.

106. The *Notice* proposed to create a new rule that would require DBS licensees to operate in accordance with Appendices 30 and 30A to the ITU Radio Regulations.³⁵⁶ Appendices 30 and 30A contain the ITU BSS and feeder-link Plans, as well as international provisions for implementing BSS systems. These Appendices also provide a mechanism for implementing systems whose technical parameters differ from the existing Plan assignments (*i.e.*, a procedure to modify the Plans).³⁵⁷ The commenters in general support of this proposal to require DBS licensees to operate in accordance with Appendices 30 and 30A of the International Radio Regulations³⁵⁸ and we will adopt it with certain modifications.³⁵⁹ The rule we adopt differs from the proposed rule in that it no longer specifies that until the Plan modification procedures are completed, DBS operations "cannot cause harmful interference to assignments that conform to the Plans or other services sharing the same frequency bands, nor can it receive protection from assignments that conform with the Plans or other services sharing the same frequency bands." We have modified our proposed rule so that it does not repeat the portion of the revised Section 25.111 (discussed below) regarding the protection that our DBS systems will receive when operating within parameters different from those specified in Appendices 30 and 30A.

107. *Prohibition on exceeding Technical Limits in ITU Annex 1.* Under the ITU Radio Regulations, an Administration whose proposed DBS system exceeds the technical limits in Annex 1 to Appendices 30 and 30A³⁶⁰ must seek the agreement of the Administrations whose Plan assignments or other

³⁵⁴ See Part 25, Subparts B, C, and D (Applications and Licenses, Technical Requirements, and Technical Operations).

³⁵⁵ EchoStar cites as possible examples the power limits and antenna performance requirements imposed in the closely spaced environment of the FSS which it argues would be inappropriate to apply to the DBS service. See Reply Comments of EchoStar at 13.

³⁵⁶ *Notice* at ¶ 43. This new rule, Section 25.148(f), updates Section 100.21 of the Commission's rules to refer to the proper provisions in the Radio Regulations.

³⁵⁷ See ITU Radio Regulations, Appendix 30 and 30A, Article 4. The United States must initiate this modification procedure for three reasons; 1) in order to receive protection from interference from the systems of other Administrations, if a US-licensed DBS system uses parameters different than those specified in the ITU BSS and feeder-link Plans; 2) if it proposes to use an orbital location not assigned to the United States in the ITU BSS and feeder-link Plans; or 3) if it causes more interference to another Administration's services or systems than the existing U.S. Plan assignment. If the U.S. successfully completes the Plan modification procedure on the licensee's behalf, the actual parameters of the licensee's system will be then included in the Plans, and it will be protected both from subsequent modifications to the Plans and from interference from other services sharing the bands.

³⁵⁸ See, e.g., Comments of DIRECTV at 23; Comments of Tempo at 3; and Comments of SkyBridge at 7.

³⁵⁹ See new §25.148(f).

³⁶⁰ Annex 1 to Appendices 30 and 30A contain threshold values for determining whether a service of an Administration is affected by a proposed modification to the Plans. These limits are intended to protect other (continued....)

radiocommunication systems are affected by the proposed modification. In the *Notice*, the Commission proposed to revise our rules to consider systems that exceed the technical limits contained in these Annexes if there are reasonable assurances that the agreement of the affected Administration(s) can be obtained.³⁶¹ In the *Notice*, the Commission also recognized that for other satellite services (e.g., FSS), the United States regularly undertakes coordination of its satellite systems, and that it believed this approach would be appropriate for the DBS service.³⁶²

108. The comments overwhelmingly support this proposal.³⁶³ DIRECTV states that this 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.³⁶⁴ We also, however, recognize that there are differences between the coordination process applicable to other services such as the FSS and the agreement-seeking process required by Appendices 30 and 30A. Satellite coordination generally places some burden on both parties involved to reach a mutually acceptable solution, while the agreement-seeking process puts the regulatory burden on the party seeking agreement. Accordingly, we stress that the burden shall be on the applicant to show that the agreement of the affected Administration(s) can be obtained.³⁶⁵ For example, we would consider favorably evidence that coordination with the potentially affected Administration(s) has been successfully completed or extensive technical analyses demonstrating that the impact on the services of the affected Administration is negligible. DBS applicants or licensees however, assume the risk that agreement with other Administrations may not be obtained. If the necessary agreements are not obtained, the system will not become a part of the Plans and will not receive protection internationally from other radiocommunication systems.

109. The ITU Radio Regulations require completion of the Plan modification procedure before a DBS system can claim protection from interference from assignments that conform to the Plan. Accordingly, for those systems for which the Plan modification procedure has been undertaken, we will condition the DBS license on its ultimate completion. Specifically, until such time as the Plan modification procedure is complete, the FCC may require a licensee to modify its operations in the event that harmful interference is caused to the conforming assignments of another Administration, and we will require the non-conforming DBS licensee to accept interference from the assignments of other Administrations.

110. *Application requirements.* In the *Notice*, the Commission proposed to adopt a new Section 25.111(c) that would require applicants to provide the Commission with all necessary information if the

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Administration's Plan assignments, FSS networks, and terrestrial systems. The limits include various pfd limits, and changes in the overall equivalent protection margin or equivalent noise temperature. These limits must be met by proposed BSS systems or the U.S. must seek the agreement of the affected Administration on behalf of the U.S. DBS operator.

³⁶¹ *Notice* at ¶ 45 (See, e.g., if it is shown in an FCC application that the effect on the foreign system(s) is negligible).

³⁶² *Id.*

³⁶³ Comments of EchoStar at 12-13; Comments of Tempo at 3; Comments of USSB at 5.

³⁶⁴ Comments of DIRECTV at 23.

³⁶⁵ See new §25.148(f).

applicant seeks a modification of the current ITU BSS and feeder-link Plans,³⁶⁶ as well as the necessary information to forward to the ITU regarding use of tracking, telemetry and control (“TT&C”) frequencies.³⁶⁷ The *Notice* also proposed to modify its rules by adding a new Section 25.114(c)(22). This proposed new section would codify the requirement that applicants submit an analysis demonstrating whether they exceed the limits specified in Annex 1 to Appendices 30 and 30A.³⁶⁸ The new Section 25.114(c)(22) proposed requiring applicants to provide the information requested in Annex 2³⁶⁹ to Appendices 30 and 30A of the International Radio Regulations, and to provide sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder-link Plans were implemented.³⁷⁰ In addition, the *Notice* sought comment on whether DBS applicants should supply technical information in addition to that required by Part 25.³⁷¹

111. Although DIRECTV supports the Commission’s proposal to state explicitly the information that licensees must provide when seeking to modify the Plans, it suggests that since ITU requirements remain in flux and change frequently, the Commission should issue guidelines regarding DBS ITU regulatory compliance instead of specifying necessary ITU information in the rules.³⁷² We agree with DIRECTV’s comment that specific references to the ITU Radio Regulations could become obsolete.³⁷³ Moreover, we recognize that in practice, applicants now normally provide this information to the Commission. Nonetheless, it is important for the protection of U.S. DBS systems that information is filed at the ITU in a timely and accurate manner, and we believe that clearly stating our filing requirements in our rules will facilitate our application process, and expedite the international regulatory process for our applicants. Accordingly, we adopt wording that will provide the appropriate guidance to applicants while simultaneously remaining relevant despite the possibility of modifications to the ITU Radio Regulations. We believe that the current wording of the new rules achieve our goal of providing sufficient guidance to

³⁶⁶ See *Notice* at ¶46. An Administration seeking to modify the Plans must submit to the ITU information requested in Appendix 4 of the ITU Radio Regulations. See Section 4.2.6 of Appendix 30 and Appendix 30A.

³⁶⁷ For DBS systems, the United States must submit Appendix 4 information to notify the ITU Radiocommunication Bureau of the frequencies that will be used for tracking, telemetry and control operations. The ITU Radiocommunication Bureau requests that the Appendix 4 information be submitted in electronic format.

³⁶⁸ See *Notice* at Appendix A, proposed modified Section 25.114(c)(22)(ii). Annex 1 to Appendices 30 and 30A provide limits for determining when another Administration is affected by a proposed modification to the Plans.

³⁶⁹ Annex 2 to Appendices 30 and 30A was suppressed at WRC-2000. The data elements formerly specified in Annex 2 were moved to Appendix 4. See Appendix 4 for a list of the basic characteristics to be furnished in notices relating to space stations in the broadcasting-satellite service and their associated feeder links. The submission of the transmit and receive, co-polarized and cross-polarized, satellite antenna gain contours should be made electronically, according to the format specified by ITU Circular. See ITU’s Circular Letter CR/58, dated October 21, 1996 (“Circular Letter C/58”).

³⁷⁰ See *Notice* at Appendix A, proposed Section 25.114(c)(22)(i). In Region 2, an affected Administration is, in part, determined by an analysis that calculates the change in the overall equivalent protection margin, and that includes in its reference, all Plan assignments and any previous Plan modifications. See paragraph 2 of Annex 1 to Appendix 30.

³⁷¹ See *Notice* at ¶ 23.

³⁷² Comments of DIRECTV at 24.

³⁷³ The ITU Radio Regulations are modified at every World Radio Conference, which take place at two to four year intervals. After each WRC, specific references to the ITU regulations included in the C.F.R. that were modified by the Conference would be obsolete until updated by our rulemaking process.

applicants without becoming so overly explicit as to become inapplicable with every subsequent modification to the ITU Rules. In its comments, EchoStar states that it does not believe additional technical information beyond Section 25.114 is needed to process DBS applications.³⁷⁴ We do not agree. DBS operations are closely governed by Appendices 30 and 30A and their associated Plans. To evaluate the impact of the proposed system on existing Plan assignments and other services, it is essential that during the licensing process the Commission receive an analysis demonstrating whether the limits in Annex 1 are exceeded. To initiate a Plan modification, the United States must submit this analysis, along with the information requested in Appendix 4 of the ITU Radio Regulations. Without this information, the Commission cannot fulfill ITU requirements on behalf of the applicant, nor can it make a decision regarding the international implications of the proposal before it. In addition, consistent with DIRECTV's recommendation, we have updated the language of the rule proposed in the *Notice* to reflect changes in the ITU Radio Regulations made after the *Notice* was adopted. Specifically, we revise Section 25.111(c) to specify that DBS applicants must provide certain information regarding TT&C frequencies.³⁷⁵ We also adopt the proposed rule Section 25.114(c)(22) with editorial modifications to reflect the relocation of Annex 2 information adopted at WRC-2000.³⁷⁶

112. *Supplemental technical requirements.* In the *Notice*, we sought comment on whether it is necessary to develop regulations to supplement the technical and regulatory requirements specified in Appendices 30 and 30A of the ITU Radio Regulations.³⁷⁷ We raised this question because U.S. DBS systems can use technical parameters that differ from those contained in Appendices 30 and 30A and on which the ITU BSS and feeder-link Plans were developed. Many of these differing parameters now used by U.S. DBS licensees represent advances in technology, or concessions to consumer demands that were not foreseen at the time the ITU BSS and feeder-link Plans were developed. For example, as recognized in the *Notice*, U.S. DBS systems use digital instead of analog modulation techniques, have lower downlink eirp, and have extended the original intended service area delineated by the radio frequency beams of the Plans.³⁷⁸ In addition, operational DBS systems typically use larger feeder-link transmit earth station antennas than described in the Plans and have implemented receive earth station antennas with smaller diameters than were assumed during the creation of the Plans.

113. Regarding possible supplemental regulations, Tempo offers a number of suggestions to reduce administrative burdens on both applicants and staff, and to facilitate interference-free operation by co-located providers.³⁷⁹ In its comments, Tempo suggests that in the absence of private coordination,³⁸⁰ the

³⁷⁴ Comments of EchoStar at 2.

³⁷⁵ See new § 25.111(c). WRC-2000 modified Article 2 of Appendices 30 and 30A to include new coordination requirements for TT&C operations using the guardband frequencies. See Section 2.2 of Appendices 30 and 30A in the *Final Acts*. One other editorial change in the text has been the deletion of the word "modified" when describing the frequency assignment that has been incorporated into the Plan.

³⁷⁶ WRC-2000 suppressed Annex 2 to Appendices 30 and 30A. The information contained therein was relocated to Appendix 4.

³⁷⁷ *Notice* at ¶ 47.

³⁷⁸ *Id.*

³⁷⁹ Typically, the U.S. has not assigned all channels to a single operator at a given orbit location. Rather, channel assignments are distributed among co-located operators and the potential for interference exists between these co-located providers.

Commission should adopt additional technical rules to facilitate the chances of successfully operating two independent, co-located systems on an interference-free basis. Tempo's suggested rules include: (1) requiring that cross-polarization isolation for space station antennas conform to ITU specifications; (2) requiring DBS licensees at the same orbital position to operate their TT&C frequencies on opposite circular polarizations; (3) limiting uplink eirp to levels consistent with the requirements of Section 25.204 of the Commission's rules; and (4) maintaining the basic 0.4 degree orbital spacing between co-located satellites.³⁸¹ No commenters opposed Tempo's suggestions, although DIRECTV questioned the clarity of Tempo's proposal to maintain 0.4 degree orbital spacing and urged that the Commission not alter the orbital spacing defined in Appendix 30 of the Radio Regulations.³⁸² We will address each of Tempo's proposed rules below.

114. Tempo raises the important issue of the cross-polarization isolation of DBS spacecraft and associated earth station antennas.³⁸³ U.S. DBS providers are designing spacecraft antennas that do not meet the cross-polarization isolation patterns in Appendix 30.³⁸⁴ In the BSS and feeder-link Plans, adjacent channels overlap partially in frequency.³⁸⁵ At a given BSS orbit location, interference between channels is avoided by transmitting in opposite polarizations³⁸⁶ on the even and odd numbered channels. In turn, the satellite antenna must radiate or receive power in its reference polarization, and avoid radiating or receiving significant amounts of power in the opposite, or cross-polarization. The ratio of power transferred by an antenna radiating in the reference polarization to another antenna receiving in the cross-polarization is known as the cross-polarization isolation ratio and is normally measured in decibels ("dB").

115. Because the Region 2 BSS and feeder-link Plans are based on cross-polarized, adjacent channels that overlap in frequency (also the basis for our domestic channelization scheme) it is important
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³⁸⁰ Tempo and other commenters endorse a Commission policy of encouraging co-located licensees to coordinate amongst themselves to resolve any potential or existing interference issues. *See* Comments of Tempo at 5, Comments of Primestar at 20, and Comments of DIRECTV at 25.

³⁸¹ *See* Comments of Tempo at 5.

³⁸² *See* Reply Comments of DIRECTV at 8.

³⁸³ *See* Comments of Tempo at 4-5.

³⁸⁴ The cross-polarization patterns on which the Region 2 Plans were based are given in Section 3.13.3 of Annex 5 to Appendix 30 and Section 4.6.3 of Annex 3 to Appendix 30A. These reference patterns provide for cross-polarization isolation values of between 27 to 30 dB over the primary coverage area, as defined by the half-power beamwidth.

³⁸⁵ *See, e.g.*, Downlink Channel 1 extends from 12.212 – 12.236 GHz, Channel 2 extends from 12.22658 – 12.25058 GHz, and Channel 3 extends from 12.24116 – 12.26516 GHz. Thus there is a 9.42 MHz overlap between Channels 1 and 2, and a similar overlap between Channels 2 and 3. *See* Table 4, of Appendix 30 for the Region 2 BSS channel assignments.

³⁸⁶ Polarization is the property of an electromagnetic wave that describes the time-varying direction and amplitude of the electric field vector (*i.e.*, orientation). States of polarization are described in terms of the figures traced as a function of time by the projection of the extremity of a representation of the electric vector onto a fixed plane in space that is perpendicular to the direction of propagation. In general, the polarization is elliptical and is traced in a clockwise or counterclockwise sense, as viewed in the direction of propagation. If the major and minor axes of the ellipse are equal, the polarization is said to be "circular." If the minor axis of the ellipse is zero, the polarization is said to be "linear." Rotation of the electric vector in a clockwise sense is designated "right-hand polarization," and rotation in a counterclockwise sense is designated "left-hand polarization."

that both satellite and earth station antennas exhibit adequate cross-polarization discrimination. This is particularly true when adjacent channels are assigned to two different, co-located operators. In our rules governing the fixed-satellite service, we require that space stations be designed to provide a ratio of on-axis co-polarized gain to on-axis cross-polarized gain of at least 30 dB.³⁸⁷ To facilitate the ability of a U.S. DBS spacecraft to share frequencies with other U.S. DBS systems, particularly when two or more operators share the same nominal orbital position, we will adopt a new rule that will similarly require DBS space station antennas to be designed to achieve a cross-polarization isolation ratio of at least 30 dB.³⁸⁸ This new requirement will apply to new applications and applications for replacement satellites, or to modifications to existing authorizations that significantly change the design of the proposed satellite.

116. Tempo also suggests that the Commission require DBS licensees at the same orbital position to operate their TT&C frequencies on opposite circular polarizations.³⁸⁹ Considering the limited amount of spectrum necessary for TT&C functions³⁹⁰ and the fact that the guardbands of the Plans provide 12 MHz of spectrum for TT&C operations at both the upper and lower bounds of the allocated band,³⁹¹ we believe that there is sufficient spectrum available to accommodate the TT&C requirements of multiple, co-located DBS licensees. We currently rely on coordination between our licensees to resolve any incompatibilities in TT&C operations, an approach that we believe allows DBS operators the greatest flexibility in system operation. Therefore, we do not find it necessary to adopt additional regulations regarding the use of TT&C frequencies. We note however, that our rules require C-band space stations in the fixed-satellite service to be capable of switching polarization sense upon ground command.³⁹² A similar capability in DBS space stations could facilitate coordination of TT&C operations among co-located DBS licensees, particularly in cases where a space station is moved from one location to another. Accordingly, we encourage our DBS operators to design their space stations with such polarization-switching capabilities for their TT&C operations.

117. Tempo recommends that DBS operators limit uplink eirp to levels consistent with the requirements of Section 25.204 of the Commission's rules.³⁹³ Section 25.204(b) places limits on earth station eirp in bands above 15 GHz shared coequally with terrestrial radiocommunication services, in order to facilitate sharing with these services.³⁹⁴ This rule was not intended to facilitate sharing among

³⁸⁷ 47 C.F.R. § 25.210(i).

³⁸⁸ See new § 25.215.

³⁸⁹ Comments of Tempo at 5.

³⁹⁰ See, e.g., Letter from Pantelis Michalopoulos, Counsel to EchoStar, to Magalie Roman Salas, Secretary (dated August 27, 1999) specifying 1.2 MHz of spectrum for the uplink TT&C functions of the EchoStar 5 or 6 satellites, and 1.2 MHz for the downlink TT&C functions.

³⁹¹ Section 3.9 of Annex 5 to Appendix 30 and Section 4.1 of Annex 3 to Appendix 30A.

³⁹² 47 C.F.R. § 25.210(a)(3).

³⁹³ Comments of Tempo at 5.

³⁹⁴ Section 25.204(b) states that “in bands shared coequally with terrestrial radio-communication services, the equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station operating in frequency bands above 15 GHz shall not exceed the following limits except as provided for in paragraph (c) of this section:

+64 dBW in any 1 MHz band for $\theta < 0^\circ$

+64+30 dBW in any 1 MHz band for $0^\circ < \alpha < 5^\circ$

(continued...)

space stations. Nor does it appear that this rule is relevant to BSS feeder-link earth stations, except for the small band segment 17.7-17.8 GHz that is shared with terrestrial services. We note, however, that by incorporating the Part 100 rules into Part 25, Section 25.204(b) will now apply to DBS feeder-link earth stations in the 17.7-17.8 GHz frequency band segment.³⁹⁵ At this time we do not find it necessary to adopt any additional requirement extending uplink eirp limits to other portions of the feeder-link allocation (*i.e.*, 17.3-17.7 GHz).

118. Tempo also recommends that the Commission maintain the basic 0.4 degree orbital spacing between co-located satellites to reduce the potential for interference between operators with cross-polarized channel assignments.³⁹⁶ Appendices 30 and 30A of the International Radio Regulations base the Region 2 BSS and feeder-link Plans on grouping of the space stations in nominal orbital locations of $\pm 0.2^\circ$ from the center of the satellite cluster.³⁹⁷ In the BSS and feederlink Plans, channels at a given orbital location are specified such that oppositely polarized channels (“RHCP” or “LHCP”) are located at opposite edges of the cluster, or 0.4 degrees apart. Although the United States initially followed this scheme when assigning channels at a given orbit location, DBS licensees have increasingly indicated a desire for greater flexibility regarding the placement of their satellites within the cluster.³⁹⁸ Moreover, at locations, where all 32 channels are assigned to a single operator, we have been particularly willing to allow the operator considerable freedom to locate the spacecraft anywhere within the cluster boundaries. As a result, location of U.S. DBS satellites no longer strictly adheres to a 0.4 degree even/odd channel separation scheme, nor do we believe that returning to such a scheme would further the interests of U.S. DBS providers as it is contrary to the Commission’s policy of allowing operators maximum flexibility in designing their systems. Further, as discussed above, we are adopting cross-polarization isolation requirements for new DBS satellites. We believe that this new cross-polarization isolation requirement in combination with the requirement to coordinate among the co-located licensees will afford DBS providers the desired flexibility regarding specific location of their satellites, without causing unacceptable interference to co-located operators.

119. *Coordination among licensees at the same orbit location.* The Commission has assigned DBS channels at the same orbital position to different entities, and recognizes the need to ensure their interference-free co-existence. The close proximity of satellites located at the same orbital location increases the potential for interference between adjacent channels. This is especially true on the uplink if the earth station transmit eirps are not similar. Appendices 30 and 30A allow a space station to be located anywhere within ± 0.2 degrees of the assigned orbital location,³⁹⁹ as long as the agreement of other

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where θ is as defined in paragraph (a) of this section.”

³⁹⁵ We note too that the fixed-satellite service is currently subject to the requirements of Part 25. Thus, Section 25.204(b) may already be considered applicable to BSS feeder links that are by definition FSS allocations.

³⁹⁶ Comments of Tempo at 5.

³⁹⁷ Administrations may locate their satellites at any orbital position within the cluster, provided they obtain the agreement of Administrations having assignments to space stations in the same cluster. *See* Section B of Annex 7 to Appendix 30 and § 4.13.1 of Annex 3 to Appendix 30A.

³⁹⁸ *See MCI Telecommunications Corporation Application for Minor Modification and Clarification of License Conditions*, 14 FCC Rcd 9966 (1999). MCI requested to operate its assigned channels at any location within the 109.8° W.L. - 110.2° W.L. cluster.

³⁹⁹ For example, for the orbital position of 110° W.L., any location between 109.8° W.L. and 110.2° W.L.

Administrations with channel assignments at the same orbital location is obtained.⁴⁰⁰ This ITU requirement does not address the domestic situation where adjacent channels at the same location are assigned to different operators. The *Notice* proposed to apply a policy requiring licensees at the same orbit location to coordinate among themselves to arrive at a mutually acceptable solution to any potential or existing interference between their operations.⁴⁰¹ In addition, DBS licensees with channels assigned at a particular orbital location have expressed a need for some flexibility with respect to the location of their satellites and associated channels.⁴⁰² In situations involving U.S. licensees with channels assigned at the same orbital position, we believe that allowing DBS operators to coordinate amongst themselves in order to arrive at a mutually acceptable solution regarding the location of their satellites and use of their associated frequency assignments, including TT&C frequencies, will result in maximum flexibility and efficient use of the orbit and spectrum resource.

120. Tempo suggests that the Commission should encourage coordination between licensees and/or applicants prior to the filing of applications with the Commission.⁴⁰³ In particular, Tempo suggests that co-located operators should share proposed technical changes prior to filing applications with the Commission. We endorse Tempo's suggestion and strongly encourage licensees and applicants to resolve any potential difficulties prior to filing an application. Such pre-coordination would expedite the application process. While commenters expressed general support for private coordination between DBS applicants and licensees, some requested that the Commission make clear that the primary burden of coordination falls upon the newcomer to a particular orbital location that seeks to deploy a technology inconsistent with established operations.⁴⁰⁴ We decline to make such a definitive statement regarding the burden of coordination. The Commission has historically maintained that all affected parties must cooperate in the coordination process to resolve interference issues.⁴⁰⁵ We do, however, recognize that the operator of an in-orbit satellite is limited in its ability to make technical or operational changes to its system. The proposed new satellite, which is often still in early stages of its design, may be in the best position to make the adjustments required to effect coordination.

121. Tempo also expresses concern that the Commission should closely monitor any system based on private coordination between potentially affected parties.⁴⁰⁶ In the fixed-satellite service, United States

⁴⁰⁰ This ITU requirement is moot at the Region 2 U.S. orbital locations since the U.S. is the only Administration with channel assignments at these positions.

⁴⁰¹ See *Notice* at ¶ 48.

⁴⁰² See *In re Application of MCI Telecommunication Corporation for Modification of DBS Authorization*, 14 FCC Rcd 9966 (1999), where MCI requested to operate its assigned channels at any location within the 109.8° W.L. - 110.2° W.L. cluster.

⁴⁰³ Comments of Tempo at 4.

⁴⁰⁴ See Comments of Primestar at 20 and Reply Comments of Echostar at 13.

⁴⁰⁵ See *Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service*, 11 FCC Rcd. 13788 (1996), *American Telephone and Telegraph Co.*, 10 FCC Rcd 12132 (1995), *Hughes Communications Galaxy, Inc.*, 7 FCC Rcd. 4627, 4673 (1992), *GE American Communications, Inc.*, 6 FCC Rcd 31 (1991), *Hughes Communications Galaxy, Inc.*, 5 FCC Rcd 3423 (1990), *Satellite Transponder Leasing Corporation*, 5 FCC Rcd. 1651 (1990), *American Satellite Company*, 5 FCC Rcd. 1186 (1990), *GE American Communications, Inc.*, 3 FCC Rcd 6871 (1988).

⁴⁰⁶ See Comments of Tempo at 5. Tempo states further that no party should be allowed unilaterally to take action that could adversely affect another operator prior to successfully completing coordination.

satellites operating in the C- and Ku-bands are successfully licensed and operated in a 2-degree spacing environment that depends almost entirely upon private coordination between adjacent U.S. applicants and licensees. Our public notice and comment process affords potentially affected operators the opportunity to make known their concerns at the time an application is filed before the Commission. We expect that the same process will work successfully for applicants and licensees in the DBS service. Although we strongly encourage applicants and licensees to resolve conflicts privately, the Commission will be the final arbiter of disputed matters, and we will enforce our rules diligently as necessary.

122. *Network control center.* As a further means for preventing interference among co-located DBS satellites, we also proposed extending to DBS licensees the Section 25.272(a) requirement to establish a network control center to monitor and coordinate space station activities.⁴⁰⁷ Although Tempo supports the Commission's proposal,⁴⁰⁸ other commenters generally oppose requiring DBS licensees to establish a network control center. DIRECTV asserts that such a requirement is unnecessary because DBS licensees will do this anyway, and thus is inconsistent with the Commission's desire to eliminate unnecessary regulations.⁴⁰⁹ EchoStar states it subcontracts a portion of its DBS TT&C operations and should be permitted the flexibility to continue to do so.⁴¹⁰ EchoStar further argues that to deny this flexibility is inconsistent with the Commission's view of the DBS service as one that is available for licensing to relatively small companies and urges the Commission not to lose sight of factors that distinguish the DBS service from other services when incorporating Part 100 into Part 25.

123. The intent of Section 25.272(a), as currently applied to FSS operators, is to ensure control over the various services provided through an FSS system, and to prevent and/or promptly correct harmful interference incidents. Many FSS service providers can uplink to a single FSS system, and these services can use a variety of different carriers, thereby creating significant opportunities for interference events. The situation in the DBS service is not analogous. Unlike the thousands of FSS remote uplinks, there are generally only one or two uplink earth stations per DBS system. In addition, the types of transmissions are relatively uniform within the DBS service, further limiting opportunities for inadvertent uplink transmission errors. Moreover, although two DBS networks may be spatially co-located, the channelization scheme serves to mitigate the potential for interference events.⁴¹¹ In addition, in the Part 25 rules the requirement to establish a network control center is applied only to the FSS; it is not applied to other satellite services that, like the DBS service, employ relatively few feeder links operating in conjunction with ubiquitously deployed receive earth stations (e.g., Satellite Digital Audio Radio Service, Mobile Satellite Service). Considering these factors, and in light of our policy requiring coordination between U.S. DBS operators, at this time we do not find it necessary to apply a network control center requirement to DBS operators.

124. *Systems with technical parameters substantially different from those anticipated in the Plans.* The *Notice* sought comment on whether the implementation of systems with technical parameters substantially different from those anticipated in the Plans could result in harmful interference to other

⁴⁰⁷ See *Notice* at ¶ 48. See also 47 C.F.R. § 25.272. This rule establishes general inter-system coordination procedures.

⁴⁰⁸ See Comments of Tempo at 4.

⁴⁰⁹ See, e.g., Comments of DIRECTV at 25.

⁴¹⁰ See Comments of EchoStar at 13.

⁴¹¹ Even-numbered channels operate at one polarization, while odd-numbered channels operate at the other. Thus, there is no frequency overlap between co-polarized channels.

services.⁴¹² The *Notice* also asked what level of interference protection should be afforded to DBS systems using parameters significantly different from those anticipated in the Plans.⁴¹³ SkyBridge asserts that rules are necessary to ensure that systems using significantly modified characteristics are adequately protected themselves, and do not threaten the entry of new DBS and other systems.⁴¹⁴ SkyBridge suggests that the Commission should develop new protection criteria applicable to modified U.S. DBS systems that take into account actual requirements of such systems.⁴¹⁵ SkyBridge offers as an example the protection limits in Annex 4 of Appendix 30⁴¹⁶ that it believes should not be applied to modified systems, because they are not linked in any way to the protection requirements of such systems.⁴¹⁷ DIRECTV disagrees with this assertion, stating that the existing level of protection should be preserved because future DBS technologies will require higher C/N ratios that may require protection at least to the levels specified in Annex 4 to Appendix 30.⁴¹⁸

125. While many commenters addressed this issue,⁴¹⁹ none provided specific suggestions for revised sharing or protection criteria. We do not have sufficient information in this record to establish revised protection criteria for digital DBS systems. Internationally, WRC-2000 adopted new criteria for protection of BSS from non-geostationary satellite orbit fixed-satellite service (“NGSO FSS”). Another Commission proceeding has already addressed questions regarding sharing between NGSO FSS and BSS and adopted the protection criteria of WRC-2000.⁴²⁰ These actions may alleviate SkyBridge’s particular concern. In addition, in a separate proceeding the Commission recently addressed the issue of fixed service systems operating within the U.S sharing spectrum on a co-primary basis with NGSO FSS systems, and on a non-harmful interference basis with BSS systems operating in the 12 GHz frequency band.⁴²¹

⁴¹² See *Notice* at ¶ 49.

⁴¹³ *Id.*

⁴¹⁴ Comments of SkyBridge at 4.

⁴¹⁵ Reply Comments of SkyBridge at 3.

⁴¹⁶ Annex 4 to Appendix 30 of the ITU Radio Regulations contains inter-regional power limits to protect BSS systems from interference from FSS systems using the same frequency band in another ITU Region. For example, Region 2 FSS systems operating in the 11.7-12.2 GHz band must respect limits to protect Region 1 BSS systems operating in the same frequency band.

⁴¹⁷ Comments of SkyBridge at 9. SkyBridge provides an example that, based on new modulation schemes, suggest that the required protection ratio is lower.

⁴¹⁸ Reply Comments of DIRECTV at 9.

⁴¹⁹ Comments of DIRECTV at 26; and Reply Comments of SkyBridge at 3.

⁴²⁰ See *In the Matter of Amendment of Part 2 and 25 of the Commission Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range and Amendment of the Commission’s Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates*, Report and Order, ET Docket No. 98-206, RM-9147, RM-9245, 16 FCC Rcd 4096 (2000) for discussion of these sharing issues.

⁴²¹ See *In the Matter of the Establishment of Policies and Service Rules for Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-band*, Report and Order, Further Notice of Proposed Rulemaking, IB Docket No. 01-96, FCC 02-123 (released April 26, 2002).

126. *Receive earth station antenna performance requirements.* The *Notice* requested comment on possible DBS receive earth station antenna performance requirements.⁴²² The Commission wants to ensure that U.S.-licensed DBS systems receive sufficient interference protection and that subscribers' receive antennas will work effectively in current and future radio frequency interference environments.⁴²³ The *Notice* also asked whether the Commission should afford interference protection to DBS systems only to the extent that they meet certain receive antenna performance standards and it asked what type of regulation would be appropriate (*e.g.*, side-lobe suppression or minimum gain requirements). SkyBridge suggests that DBS receive earth station antennas should be required to satisfy, at a minimum, the sidelobe characteristics contained in Recommendation ITU-R BO.1213.⁴²⁴ SkyBridge believes that such antenna performance requirements would ensure efficient use of the spectrum, thereby preserving valuable spectrum resources for future entrants.⁴²⁵ DIRECTV, EchoStar and Primestar strongly oppose mandating compliance with the antenna patterns of Recommendation ITU-R BO.1213 because, they assert, it would be too costly, and is unnecessary.⁴²⁶ DIRECTV further states that Recommendation ITU-R BO.1213 was adopted by the ITU-R for Regions 1 and 3 re-planning⁴²⁷ and that there is no sound policy basis for applying such a pattern in Region 2.⁴²⁸

127. We are committed to giving DBS operators maximum technical flexibility, especially considering, as EchoStar points out, that earth station receive antenna size is a very important factor to potential consumers of DBS service.⁴²⁹ We also are committed, however, to accommodating future entrants, including foreign entities, into our market.⁴³⁰ Therefore, we seek to adopt regulations that achieve an appropriate balance between flexibility for DBS licensees while preserving opportunities for future entrants and ensuring protection of U.S. DBS systems from interference.

128. The receive earth station antenna sidelobe performance will affect the amount of interference into DBS receivers from other systems, including NGSO FSS systems. As discussed above, the ITU-R has examined the issue of interference into BSS receivers from NGSO FSS systems in great depth. Following extensive work in the ITU-R Study Groups, WRC-2000 adopted equivalent power flux density (“epfd↓”) limits⁴³¹ to protect BSS receive antennas from NGSO FSS system interference.⁴³² Recently, the

⁴²² See *Notice* at ¶ 51.

⁴²³ *Id.* at ¶ 49.

⁴²⁴ Comments of SkyBridge at 6. ITU-R Recommendation BO.1213 contains BSS receive earth station antenna patterns that were used at WRC-97 in revising the technical parameters on which the Regions 1 and 3 Plans are based. These patterns are not applied to Region 2.

⁴²⁵ Comments of SkyBridge at 6.

⁴²⁶ See Reply Comments of DIRECTV at 8; Reply Comments of EchoStar at 11-12; and Reply Comments of Primestar at 12.

⁴²⁷ The WRC-2000 revised the Regions 1 and 3 BSS and feeder-link Plans to give 10 channels to each Region 1 country and 12 channels to each Region 3 country. The U.S. is in ITU Region 2, whose BSS and feeder-link Plans were not revised by WRC-2000.

⁴²⁸ Reply Comments of DIRECTV at 9.

⁴²⁹ Reply Comments of EchoStar at 12.

⁴³⁰ See *Mexican Protocol*; See also *Argentine Protocol*.

⁴³¹ The equivalent power flux-density is defined as the sum of the power flux-densities produced at a geostationary-satellite system receive station on the Earth's surface or in the geostationary orbit, as appropriate, by (continued....)

Commission adopted these same $\text{epfd}\downarrow$ limits as a domestic requirement.⁴³³ These $\text{epfd}\downarrow$ limits are calculated on the basis of the reference antenna patterns contained in Annex 1 to Recommendation ITU-R BO.1443.⁴³⁴ We note that our newly adopted rules do not limit DBS networks to operating only with receive antennas conforming to the specific performance patterns contained in the referenced ITU-R Recommendation.⁴³⁵ While the choice of receive antenna characteristics remains with the DBS operator however, the operator must accept any resulting interference from a NGSO-FSS network that is operating within the permitted $\text{epfd}\downarrow$ values.⁴³⁶ Hence, the DBS operator cannot claim protection from any interference it might receive beyond the level that would be received by a DBS earth station conforming to the referenced antenna patterns. We believe that these rules (*i.e.*, $\text{epfd}\downarrow$ limits in conjunction with the associated reference antenna patterns) promote inter-service sharing and facilitate efficient use of spectrum while protecting BSS receive antennas from unacceptable levels of interference.

129. Service 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 between U.S. DBS orbital locations. The orbital spacing between satellites serving the same geographic area, combined with both the satellite transmit characteristics and receive earth station antenna performance, determines the amount of interference a DBS system will receive. DIRECTV states that the core characteristics of DBS service (high-quality, high-throughput, delivered to small, non-tracking antennas) argue against tight spacecraft spacing and the resulting interference limited links.⁴³⁷ It cautions that any use of Region 2 orbital locations at less than 9-degrees separation must be studied very carefully.⁴³⁸

130. We are adopting proposed Section 25.114 (c)(22)(i), which requires that applicants provide sufficient technical showing that their proposed system could operate satisfactorily if all assignments in the BSS and feeder-link Plans are implemented. Moreover, in accordance with the International Radio Regulations, 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. That process

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all the transmit stations within a non-geostationary-satellite system, taking into account the off-axis discrimination of a reference receiving antenna assumed to be pointing in its nominal direction. *See* Final Acts of WRC-2000, Article 22, 22.5C.1.

⁴³² *See* Final Acts of WRC-2000, Article 22, Table S22-1D.

⁴³³ *See In the Matter of Amendment of Part 2 and 25 of the Commission Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range and Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates*, Report and Order, ET Docket No. 98-206, RM-9147, RM-9245, FCC 00-418 at ¶188 (rel. December 8, 2000) (“*Skybridge Report and Order*”).

⁴³⁴ *See* Final Acts of WRC-2000, Article 22, No. S22.5C.11.

⁴³⁵ The recommended antenna patterns are used as a reference standard for calculating permitted $\text{epfd}\downarrow$ values from NGSO FSS systems. The DBS operator must use a receive antenna that can sufficiently reject NGSO FSS interference in this environment, however any number of antenna patterns can accomplish this result.

⁴³⁶ *See generally Skybridge Report and Order* at ¶170-204 and Annex A, Final Rules §25.209(l)-(m).

⁴³⁷ In an interference limited environment, the system performance is primarily a function of the carrier-to-interference (C/I) ratio and is largely independent of receiver noise power. As a practical matter however, the operator typically cannot significantly increase transmit power as a means of improving overall system performance.

⁴³⁸ Comments of DIRECTV at 26.

will identify the U.S. DBS systems that are affected by the proposed Plan modification of another Administration.⁴³⁹ The United States will have an opportunity to work with the Administration proposing the Plan modification to ensure protection of U.S. DBS systems. Considering these factors, we do not find it necessary to adopt DBS receive earth station antenna performance requirements at this time. We find that our existing rules should provide adequate protection of U.S. DBS systems, while still preserving options for future entrants.

131. *Tracking, Telemetry and Control.* In addition to the communications links used to provide DBS service to subscribers, the spacecraft also needs to exchange information with the ground that is specifically related to its operation. These communication exchanges include receiving commands from the ground and replying with information concerning the spacecraft's status and condition. These operations are referred to as telemetry, tracking and control ("TT&C") and normally require a relatively small amount of frequency bandwidth, in addition to that used for the delivery of the DBS services. The Region 2 BSS and feeder-link Plans provide 12 MHz of guardband⁴⁴⁰ spectrum at the lower and upper edges of the 12.2-12.7 GHz downlink band, and at the upper and lower edges of the 17.3-17.8 GHz feeder-link band. The Plans allow these 12 MHz guardbands to be used for TT&C functions.⁴⁴¹ As a result of incorporating Part 100 into Part 25, Section 25.202(g) will now apply to DBS. This rule requires that TT&C functions be conducted at either or both edges of the allocated bands in which the licensee is providing service. We believe that Section 25.202(g) is consistent with the provisions of Appendices 30 and 30A of the International Radio Regulations and is consistent with our decision to require DBS licensees to operate in accordance with these Appendices.⁴⁴²

132. Commenters also request that we give DBS licensees the flexibility to use FSS frequencies,⁴⁴³ in particular extended C-band,⁴⁴⁴ for TT&C functions.⁴⁴⁵ Other commenters request that we permit use of out-of-band frequencies for transfer orbit⁴⁴⁶ TT&C operations.⁴⁴⁷ Similarly, the Commission recognized

⁴³⁹ Affected DBS systems will be determined on the basis of the limits contained in Annex 1 to Appendix 30.

⁴⁴⁰ A guardband is defined as the portion of the frequency spectrum between the edge of the allocated band and the edge of the necessary bandwidth of the emission in the nearest channel. *See* Section 3.9.1 of Annex 5 to Appendix 30 and Section 4.1 of Annex 3 to Appendix 30A.

⁴⁴¹ The Plans leave 12 MHz of spectrum at both the lower and upper edges of the 12.2-12.7 GHz downlink band and at both edges of the 17.3-17.8 GHz feeder-link band for space operation functions. These 12 MHz bands are referred to as guardbands. *See* Section 3.9.2 of Annex 5 to Appendix 30, and Section 4.1 of Annex 3 to Appendix 30A.

⁴⁴² *See* new §25.148(f).

⁴⁴³ We note that by definition BSS feeder links operate in the fixed-satellite service. The commenters' request to use additional FSS frequencies for TT&C functions refers to FSS allocations *other* than those already designated for use by BSS feeder links, *i.e.*, "traditional" FSS bands.

⁴⁴⁴ The term extended C-band refers to frequencies in the 3400-3700 MHz, 5850-5725 MHz and 6425-6725 MHz bands.

⁴⁴⁵ *See, e.g.*, Comments of EchoStar at 13.

⁴⁴⁶ A transfer orbit is the orbit used to move the satellite from an initial low earth orbit to its final orbit. The transfer orbit used for placement in the geostationary orbit is appropriately known as Geostationary Transfer Orbit ("GTO"). A standard GTO, is an orbit that requires the minimum energy to reach geostationary altitude (*e.g.*, Hofmann transfer ellipse). The perigee corresponds to the altitude of the initial low earth orbit parking orbit, the apogee to the geostationary orbit altitude and the inclination is usually the inclination of the initial parking orbit. TT&C requirements during launch and transfer orbit can be different from those for in-orbit spacecraft. During (continued....)

in the *Notice* that DBS applicants have asserted that more world-wide facilities are available for transfer orbit operations in the various FSS bands than in the DBS band.⁴⁴⁸ Use of FSS frequencies (other than those already designated for BSS feeder links) for DBS system TT&C functions is inconsistent with our rules requiring TT&C functions to be conducted at the allocated band edges.⁴⁴⁹ In some cases it may also be inconsistent with the tri-lateral agreement between the United States, Canada and Mexico that precludes U.S. use of C- and Ku-band frequencies at certain orbital locations (*e.g.*, 110° W.L. and 119° W.L.).⁴⁵⁰ Further, use of out-of-band frequencies for TT&C functions could cause harmful interference to U.S. licensees in other services in these bands. As stated above, we believe that the guardbands of the Plans provide sufficient spectrum for the on-orbit TT&C requirements DBS licensees. We recognize, however, that for transfer orbit operations, operators may seek to use different earth stations than those that will ultimately be used for on-orbit operations. In these cases, the earth station used for these relatively short-term transfer orbit TT&C functions may not operate in the edges of the DBS service bands.⁴⁵¹ Accordingly, we adopt our proposal to require TT&C functions for DBS systems to be conducted at the edges of the allocated bands, *i.e.*, 12.2-12.7 GHz (space-to-earth) and 17.3-17.8 GHz (earth-to-space). We will, however, evaluate requests to use FSS frequencies for transfer orbit TT&C operations on a case-by-case basis.

133. Additionally, DIRECTV requested that the Commission clarify that use of in-band TT&C frequencies applies only to 12 GHz DBS, and not to future DBS allocations.⁴⁵² With this *Report and Order*, we adopt a definition for DBS that clarifies that our DBS-specific rules apply only to 12 GHz DBS systems. We will address the use of other DBS frequency bands when service rules are promulgated for

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launch, a radar system is needed to determine the position of the spacecraft, and a flight termination command system is necessary in the event a launch vehicle must be destroyed. However, these communications are needed for a brief time period relative to in-orbit TT&C.

⁴⁴⁷ *See, e.g.*, Comments of Tempo at 6.

⁴⁴⁸ *Notice* at ¶ 52.

⁴⁴⁹ *See* 47 C.F.R. § 25.202(g).

⁴⁵⁰ *See* Public Notice, "Trilateral Agreement Regarding Use of The Geostationary Orbit Reached by Canada, Mexico and The United States," September 2, 1988.

⁴⁵¹ Because transfer orbit operations may occur at a location far from the final assigned orbital position, the earth station that will be used for on-orbit TT&C may not be available for transfer orbit TT&C. Operators may be required to use an earth station in another part of the world, which may not operate in the Region 2 BSS frequency bands. In addition, some operators prefer to use the services of companies that specifically provide transfer orbit TT&C.

⁴⁵² *See* Comments of DIRECTV at 27. DIRECTV notes that it has petitioned the Commission to use non-in-band frequencies for its proposed expansion in the 17.3-17.8 GHz band. *See also*, Application of DIRECTV Enterprises, Inc., for Authority to Construct, Launch and Operate an Expansion System of Direct Broadcast Satellites (June 5, 1997).

any future DBS allocations.⁴⁵³ We note, however, that Section 25.202(g) of our rules requiring TT&C functions to be conducted at the allocated band edges applies generally to all satellite services.

134. *Feeder-Link Earth Station Coordination with Terrestrial Services in the United States.* As we stated in the *Notice*, in the United States a portion of the feeder-link spectrum, specifically the 17.7-17.8 GHz band, is shared with terrestrial services. The Commission recognized that the limited number of DBS feeder-link earth stations facilitates sharing between DBS feeder links and terrestrial services, and that such sharing had not been a problem in the past.⁴⁵⁴ The *Notice* proposed to continue to apply the terrestrial coordination requirements currently in Part 25.⁴⁵⁵ DIRECTV supported this proposal as reasonable.⁴⁵⁶ The *Notice* further stated that Part 25 requirements in general apply only to commercial operators and recognized that coordination with the U.S. Government may also be required. In these instances, coordination with U.S. Government agencies will continue to be conducted through the normal inter-agency process.⁴⁵⁷ We see no reason to deviate from our established coordination practices and we will apply our existing Part 25 coordination requirements or the inter-agency coordination process, as appropriate, to these sharing situations.

D. DBS Ownership

135. The *Notice* requested comment about whether, given the state of the DBS industry, the Commission should adopt rules imposing ownership restrictions on DBS licensees.⁴⁵⁸ The *Notice* pointed out that the only ownership restriction the Commission had ever imposed on DBS was the "one-time" rule imposed in 1995 in connection with the auction of the licenses to use the 110° W.L. and 148° W.L. orbital locations.⁴⁵⁹ That rule required divestiture within one year by a successful bidder for the 110° W.L. orbital position of any attributable interest in any channels at either of the other two orbital positions capable of serving the entire Continental U.S., the two "full-CONUS" locations (119° W.L. or 101° W.L. orbital locations).⁴⁶⁰ The rule was intended to prevent any entity from having an attributable interest in more than one of the three DBS full-CONUS locations.⁴⁶¹ In the *DBS Auction Order*, the Commission did not adopt cable/DBS cross ownership limitations but did observe that its authority to approve transfers

⁴⁵³ The Commission recently adopted a domestic allocation in the 17.3-17.7 GHz band (space-to-earth) for the broadcasting-satellite service, and 24.75-25.25 GHz (earth-to-space) for the FSS, with use limited to feeder links for this BSS allocation. This allocation does not become effective until April 1, 2007 and service rules have not yet been developed. See *In the Matter of Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-3.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25 GHz Frequency Bands for Broadcast Satellite-Service Use*, Report and Order, IB Docket No. 98-172, 13 FCC Rcd 19923 (1998).

⁴⁵⁴ *Notice* at ¶53.

⁴⁵⁵ *Id.*

⁴⁵⁶ Comments of DIRECTV at 28.

⁴⁵⁷ *Notice* at ¶53.

⁴⁵⁸ *Notice* at ¶ 58.

⁴⁵⁹ *DBS Auction Order* at ¶ 52.

⁴⁶⁰ *Notice* at ¶ 56 citing *DBS Auction Order* at ¶ 28.

⁴⁶¹ *Id.*

of control of licenses would enable it to address any competitive concerns raised by subsequent proposals by cable affiliated entities to acquire DBS spectrum.⁴⁶²

136. Therefore, in the *Notice* the Commission asked about several key issues.⁴⁶³ The Commission asked parties to comment on the relevant product and geographic markets for evaluating DBS competition issues.⁴⁶⁴ In addition, given the appropriate product and geographic markets and the current state of the DBS industry, it asked whether the Commission should impose DBS ownership or cross-ownership restrictions.⁴⁶⁵ The *Notice* asked a number of more specific questions such as whether there should be any cross-ownership restrictions between cable TV and DBS systems, and in addition whether we should impose any overall ownership restrictions on DBS systems by themselves, specifically in terms of restricting ownership of satellites located in more than one full-CONUS orbital position. The *Notice* also asked whether, if the Commission were concerned about ownership or cross ownership, we should also be concerned about non-ownership relationships such as leases of DBS satellite transponders.

137. *The Need for Explicit Ownership Restrictions.* The *Notice* pointed out that, although the share of non-cable MVPD subscribers continues to rise, in 1997 cable subscribers still accounted for 87 percent of national MVPD subscribers whereas DBS subscribers only accounted for 9.8 percent of total national MVPD subscribers. Given the relatively small share of DBS subscribers in the MVPD market, and assuming that it is appropriate to analyze DBS ownership in the context of an overall MVPD marketplace, the *Notice* sought comment on whether it would be preferable to continue to address specific competition and public interest concerns related to DBS ownership on a case-by-case basis or whether we should promulgate ownership restrictions through specific rules.⁴⁶⁶ Thus, the Commission asked whether or not it would be appropriate to impose DBS ownership and cross-ownership restrictions and if so, what kinds of restrictions should be imposed.⁴⁶⁷

138. Since cable systems currently have the largest share of MVPD viewers,⁴⁶⁸ the *Notice* asked whether we should be primarily concerned about ownership by cable companies of other MVPD providers such as DBS, and therefore whether we should adopt specific restrictions on DBS/cable cross-ownership.⁴⁶⁹ If so, what kinds of restrictions would be appropriate? For example, should there be a flat ban on cross-ownership of a DBS system by any cable system? If not, should we impose a rule that limits cross-ownership for cable operators with large market shares? Should such a limit be based on potential subscribers or actual penetration of the commonly owned services?⁴⁷⁰ The *Notice* also sought comment

⁴⁶² *DBS Auction Order* at ¶ 28.

⁴⁶³ *Notice* at ¶ 65.

⁴⁶⁴ *Notice* at ¶ 59.

⁴⁶⁵ *Notice* at ¶ 58.

⁴⁶⁶ *Notice* at ¶ 58.

⁴⁶⁷ *Notice* at ¶ 61.

⁴⁶⁸ *Id.* at ¶ 4.

⁴⁶⁹ *Notice* at ¶ 61. It should be noted that the term "cross-ownership" is usually used to describe ownership of firms providing two different but related services or products, *e.g.*, "TV/newspaper cross-ownership." In this *Notice* we discuss DBS/cable cross-ownership even while noting that DBS and cable both compete in the provision of video distribution services in a broad MVPD market.

⁴⁷⁰ *See Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992*, MM Docket No. 92-264, 14 FCC Rcd 19098 (1999).

on whether certain non-ownership relationships, such as leasing arrangements should also be analyzed in terms of possible competitive concerns.⁴⁷¹ Finally, the *Notice* asked whether it should also be concerned about any one DBS firm controlling more than a single full-CONUS orbital position.⁴⁷²

139. As we noted in the *Further Notice of Proposed Rulemaking* (“*Cable Ownership FNPRM*”),⁴⁷³ while cable remains the dominant medium, the industry is dynamic and evolving and marked by a decrease in cable’s, and an increase in non-cable’s, share of the MVPD market. Specifically, we noted that “cable’s current share of MVPD subscribership has decreased to 80 percent, and non-cable’s share has increased to 20 percent, of which 15 percent is attributable to DBS.”⁴⁷⁴ In the *Cable Ownership FNPRM*, we are seeking to reexamine our cable ownership limits in the wake of the D.C. Circuit decision in *Time Warner Entertainment Co. v. FCC*,⁴⁷⁵ which reversed and remanded the cable horizontal and vertical limits and vacated two aspects of the cable attribution rules. The D.C. Circuit found, among other things, that in promulgating its cable horizontal and vertical limits, the Commission neither adequately took into account the evolving and increasingly competitive MVPD marketplace (particularly the impact of DBS on cable’s market power), nor sufficiently supported its limits with a full record of empirical or theoretical evidence.⁴⁷⁶

140. The *Cable Ownership FNPRM* seeks to implement the Commission’s statutory responsibilities under Section 613(f)⁴⁷⁷ to develop structural cable limits that are reasonable and serve the public interest and to respond to the D.C. Circuit’s concerns. The *Cable Ownership FNPRM* does not propose specific numerical caps or mathematical formulations to compute the structural limits, but rather considers general regulatory approaches and invites commenters to suggest alternative approaches. One of the regulatory approaches, the safe harbor or threshold approach, examines the current and anticipated state of effective competition in the MVPD marketplace and particularly relies upon DBS’ presence and constraining impact on cable both in the upstream (program acquisition) and downstream (program distribution) markets.⁴⁷⁸ In that context, the *Cable Ownership FNPRM* noted that a legislative proposal was

⁴⁷¹ *Notice* at ¶ 61.

⁴⁷² *Notice* at ¶ 62.

⁴⁷³ See *Implementation of Section 11 of the Cable Television Consumer Protection and Competition Act of 1992, Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996, the Commission’s Cable Horizontal and Vertical Ownership Limits and Attribution Rules, Review of the Commission’s Regulations Governing Attribution of Broadcast and Cable/MDS Interests, Review of the Commission’s Regulations and Policies Affecting Investment in the Broadcast Industry, Reexamination of the Commission’s Cross-Interest Policy*, CS Docket Nos. 98-82, 96-85, MM Docket Nos. 92-264, 94-150, 92-51 and 87-154, Further Notice of Proposed Rulemaking, 16 FCC Rcd 17312 (2001), ¶¶ 21-22 (“*Cable Ownership FNPRM*”).

⁴⁷⁴ *Id.* at ¶ 21.

⁴⁷⁵ See *Time Warner Entertainment Co. v. FCC*, 240 F.3d 1126 (D.C. Cir. 2001).

⁴⁷⁶ Additionally, the D.C. Circuit found that the Commission did not adequately justify two aspects of its attribution rules (the elimination of the single majority shareholder exemption and the application of the limited partnership insulation rule, which barred limited partners from selling video programming to the general partner cable entity).

⁴⁷⁷ 47 U.S.C. § 533(f).

⁴⁷⁸ See *Cable Ownership FNPRM* at ¶¶ 60-73. Specifically, the safe harbor or threshold approach considers the state of competition in the MVPD marketplace, and would only enforce ownership limits in the absence of effective competition from cable and non-cable sources, particularly DBS.

considered, but not adopted in 1992, which would have required the Commission to adopt a cable/DBS cross-ownership restriction when DBS was available to 10 percent of the nation,⁴⁷⁹ and that the Commission subsequently had solicited comment in this proceeding whether such a restriction was warranted.⁴⁸⁰ Given that the safe harbor/threshold approach primarily relies on the presence of DBS as a gauge of effective competition and that the MVPD marketplace has changed since the Commission solicited comment on a possible DBS/cable cross-ownership restriction in this proceeding, the *Cable Ownership FNPRM* has sought further comment on whether such a restriction might be justified in connection with the possible adoption of the safe harbor/threshold approach.⁴⁸¹ We therefore will not consider a specific DBS/cable cross-ownership restriction at this time. In the event we do not adopt a safe harbor/threshold cable horizontal limit or do not further address a DBS/cable cross-ownership restriction in the *Cable Ownership FNPRM* proceeding, we may revisit the issue if circumstances so warrant in this docket or another proceeding.

141. *Non-Ownership Relationships.* In the *Notice*, the Commission also asked whether there are any non-ownership relationships, such as leasing arrangements, that ought to raise competitive concerns.⁴⁸² Only two parties, DIRECTV and EchoStar, commented on this question. DIRECTV asserts that when capacity leasing rises to the level of *de facto* control, competitive concerns arise. A lease of 100 percent of the capacity of a satellite might be one factor to suggest that an unauthorized transfer of control has taken place, according to DIRECTV.⁴⁸³ EchoStar comments that "the Commission should pay close attention to arrangements such as leases of DBS resources or facilities to cable operators." It urges the Commission to scrutinize leases to determine whether they constitute an impermissible transfer of *de facto* control.⁴⁸⁴ We received no comments on this issue beyond the two mentioned above. Thus, we decline to place any restrictions on the leasing of satellite transponders. However, the Commission will review specific allegations of situations in which leasing might lead to a *de facto* transfer of control.⁴⁸⁵

142. *Limitations on Control of Full-CONUS Orbital Positions.* Another issue raised in the *Notice* was whether, if DBS is considered to be part of a broader MVPD market, and particularly if the Commission were to adopt a DBS/cable cross-ownership rule, is there a reason to be additionally concerned if any one DBS system controls more than a certain aggregate number of channels or more

⁴⁷⁹ See S. Rep. No. 92, 102d Cong., 1st Sess. at 47 (1991)(proposing a DBS/cable cross-ownership restriction in order "to further diversity and prevent cable from warehousing its potential competition"). This proposal was not adopted because at the time DBS was authorized but not yet operational. As stated in the Conference Report:

In view of the fact that there are no DBS systems operating in the United States at this time, it would be premature to require the adoption of limitations now. However, the conferees expect the Commission to exercise its existing authority [under Section 613(c)] to adopt such limitations should it be determined that such limitations would serve the public interest.

Cable Television Consumer Protection and Competition Act of 1992, 102d Cong., 2d Sess. Conference Report 102-862, 82 (1992).

⁴⁸⁰ See *Cable Ownership FNPRM* at ¶¶ 66-68.

⁴⁸¹ *Id.* at ¶ 68.

⁴⁸² *Notice* at ¶ 61.

⁴⁸³ Comments of DIRECTV at 12-14.

⁴⁸⁴ Reply Comments of EchoStar at 9.

⁴⁸⁵ See also *Dominion Order*.

than a single DBS orbital position, especially a full-CONUS orbital position? For example, is it important that MVPD viewers have the option of choosing among several competing DBS systems?⁴⁸⁶ Is it possible, for example, that the operation of several independently owned DBS systems could lead to a decline in the prices charged for DBS installation and service, and thus allow DBS to become a more significant competitor to cable systems? If so, does this suggest that there should be a ban on ownership of more than one DBS full-CONUS orbital position, regardless of whether a DBS operator has any cable or other MVPD interests? Should the three full-CONUS DBS positions allocated to the United States be analyzed differently from DTH-FSS positions that might be capable of reaching the entire continental U.S.? In considering rules regarding the control of DBS full-CONUS positions, how, if at all, should we take account of foreign-licensed satellites that are authorized to provide DBS service into the U.S.?⁴⁸⁷

143. Only a few parties commented on this issue. EchoStar commented that since the *DBS Auction Order*, there have been changes in satellite earth station receive antenna technology so that it is now possible for a single earth station antenna to receive service from satellites in two different full-CONUS orbital locations. Hence, allowing an entity to operate from more than one full-CONUS orbital location could make it more competitive with cable systems.⁴⁸⁸ In contrast, Microcom of Alaska asserts that the Commission should only allow an entity to operate one full-CONUS location.⁴⁸⁹ Microcom argues that such a rule would ensure that consumers had choices in service providers and that DBS spectrum would continue to be used to enhance competition in the video program market.⁴⁹⁰ According to Microcom, in large parts of Alaska there is no alternative to satellite DBS delivery.⁴⁹¹ UCC suggests that perhaps in the future the Commission should place a ban on the operation of more than one full-CONUS orbital position, although UCC did not propose that the Commission impose such a restriction at this time.⁴⁹²

144. As we noted in recent orders, because cable operators are investing in fiber optic cable and converting to digital technologies which will enable them to expand their channel capacity and program offerings, we have found that it was appropriate to allow DBS licenses to acquire additional satellite capacity in order to better compete with cable systems.⁴⁹³ As a result of the series of mergers and acquisitions transactions approved by the Commission in 1999, DIRECTV is now authorized to operate channels at three full-CONUS orbital positions, and EchoStar is authorized to operate channels at two full-CONUS orbital positions. On December 3, 2001, the Commission received applications requesting consent to the transfer of control of licenses and authorizations of Hughes Electronics Corporation and its

⁴⁸⁶ Notice at ¶ 63.

⁴⁸⁷ As noted above, the United States has reached an agreement with Mexico and Argentina to allow DBS and DTH-FSS satellites licensed by either country to provide service into each other's territory. Also, as stated in the Commission's *DISCO II* order, foreign-licensed satellites will be able to provide DBS and DTH-FSS in the U.S. if the country licensing the satellite in question offers effective competitive opportunities to U.S.-licensed satellites in its home market. *DISCO II* at ¶ 98.

⁴⁸⁸ Comments of EchoStar at 7; Reply Comments of EchoStar at 6.

⁴⁸⁹ Comments of Microcom at 9.

⁴⁹⁰ Comments of Microcom at 9.

⁴⁹¹ Comments of Microcom at 2.

⁴⁹² Comments of UCC at 3.

⁴⁹³ *EchoStar/MCI Order* at ¶ 22. See also *PrimeStar Order* at ¶ 22.

subsidiaries, including DIRECTV by EchoStar.⁴⁹⁴ As of March, 2001, DIRECTV offers an oval satellite antenna that is capable of receiving signals from two different satellites.⁴⁹⁵ Hence, because we continue to view DBS as offering a strong competitive alternative to cable systems, we have not found any competitive problems with allowing a DBS operator to operate in more than one full-CONUS orbital position, and indeed allowing such operation may enable DBS operators to better compete with cable systems in the future. Consequently, we will not adopt any restrictions on the number of full-CONUS orbital locations one satellite company can control.

E. Ancillary Uses of DBS Spectrum

145. Under the Commission's ancillary use policy, a DBS operator must begin DBS operations within five years after receipt of its license, but may otherwise make unrestricted use of the spectrum during that time.⁴⁹⁶ After this initial five-year period, a DBS licensee "may continue providing non-DBS service during the remainder of the life of its first satellites only on those transponders on which [it] continues to provide DBS service, and that non-DBS use cannot exceed fifty percent of each 24-hour period on any such transponder."⁴⁹⁷ In accordance with this policy, the Commission stated that it would consider continuing "to permit some degree of non-conforming use of DBS satellites during future generations given the circumstances prevailing at that time."⁴⁹⁸

146. In December 2000, the Commission sought comment on the issue of non-conforming satellite use of DBS spectrum, supplementing the record in this proceeding.⁴⁹⁹ Among other things, the Commission sought comment on whether it should eliminate, relax, or maintain time or other restrictions on uses of DBS spectrum. It also sought comment on the appropriateness of restrictions on satellite use at those locations in the western arc that are currently underutilized or whether restrictions should be relaxed for all orbit locations. It asked commenters to address whether permitting flexible use of DBS spectrum would enhance or impede competition in the MVPD market and sought information on what non-video services could be provided. The Commission requested commenters to address whether, and to what extent, permitting other uses of DBS spectrum could impact the Commission's geographic service rules. Finally, the Commission asked if a flexible use policy should extend to foreign-licensed facilities that are permitted to serve the United States.

⁴⁹⁴ See Public Notice, EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation Seek FCC Consent For a Proposed Transfer of Control, CS Docket No. 01-348, DA 01-3005 (rel. January 10, 2002).

⁴⁹⁵ See <http://www.directv.com/about/abouttablepages/0,1271,77,00.html> (visited on March 6, 2001).

⁴⁹⁶ See *The Commission Requests Further Comment in Part 100 Rulemaking Proceeding on Non-Conforming Uses of Direct Broadcast Satellite Service Spectrum*, FCC 00-426 (rel. December 8, 2000) ("*DBS Ancillary Uses PN*") *DBS Auction*. See also *In re Petition of United States Satellite Broadcasting Company, Inc. for Declaratory Ruling Regarding Permissible Uses of the Direct Broadcast Satellite Service*, 1 FCC Rcd 977, 977 (1986) ("*USSB Declaratory Ruling*") where USSB asked the Commission to clarify its earlier statements regarding permissible uses of facilities authorized to provide DBS. USSB sought a declaratory ruling that DBS licensees would be permitted to provide data, voice communications and other non-video services if necessary to support the development of its proposed operations. The Commission stated that non-conforming uses are limited by the technical and temporal restrictions outlined in the order.

⁴⁹⁷ See *DBS Ancillary Uses PN* citing *USSB Declaratory Ruling* at ¶ 12. See also *DBS Auction Order* at ¶ 17.

⁴⁹⁸ See *DBS Ancillary Uses PN* citing *USSB Declaratory Ruling* at ¶ 13.

⁴⁹⁹ See *DBS Ancillary Uses PN*.

147. The few comments addressing this issue generally supported some degree of relaxation of the Commission's non-conforming use policy.⁵⁰⁰ The States of Alaska and Hawaii and EchoStar agree that it is important to encourage increased use of DBS spectrum to satisfy consumer demand for more services.⁵⁰¹ EchoStar supports eliminating all existing regulatory impediments hindering flexible use of DBS spectrum by DBS licensees.⁵⁰² It states that because DBS spectrum is limited, spectrum efficiency becomes more important to give providers the ability to offer additional services to consumers.⁵⁰³ For instance, EchoStar has taken advantage of the existing flexibility afforded to DBS operators by providing data services in combination with video services.⁵⁰⁴

148. We agree that allowing non-conforming satellite use of DBS spectrum is consistent with the Commission's spectrum management policies, which favor greater options and choices for consumers.⁵⁰⁵ We conclude that the relaxation of use restrictions will encourage development of new telecommunications products and services. The Commission has taken a number of steps to provide more flexibility and eliminate unnecessary burdens in a variety of services.⁵⁰⁶ Such expansion may also increase efficient use of spectrum as a whole. As stated in the Commission's *Spectrum Policy Statement*, "flexible allocations may result in more efficient spectrum markets. Flexibility can be permitted through the use of relaxed service rules, which would allow licensees greater freedom in determining the specific services to be offered."⁵⁰⁷ Similarly, the Commission has stated that "a robust and effective secondary market for spectrum usage rights could help alleviate spectrum shortages by making unused or underutilized spectrum held by existing licensees more readily available to other users and uses and help to promote the development of new, spectrum efficient technologies."⁵⁰⁸ In addition, non-conforming uses are consistent with the ITU regulations that allow for FSS service from DBS orbital positions if it does not exceed certain power levels.⁵⁰⁹ Consistent with these policies, we conclude that the public interest is best served by allowing more flexible use of DBS spectrum.

⁵⁰⁰ Comments of Hawaii at 1; Supplemental Comments of EchoStar Satellite Corporation at 1; and Comments of Alaska at 1.

⁵⁰¹ See Reply Comments of EchoStar Satellite Corporation at 4; and Comments of Hawaii at 2.

⁵⁰² See Supplemental Comments of EchoStar Satellite Corporation at 1. See Reply Comments of EchoStar Satellite Corporation at 1. Comments of Hawaii (2001) at 2.

⁵⁰³ See Reply Comments of EchoStar Satellite Corporation at 4.

⁵⁰⁴ See Supplemental Comments of EchoStar Satellite Corporation at 2.

⁵⁰⁵ See Comments of EchoStar Satellite Corporation at 1. See also Reply Comments of EchoStar Satellite Corporation at 4.

⁵⁰⁶ See *In the Matter of Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, WT Docket No. 00-230, Notice of Proposed Rulemaking, 15 FCC Rcd 24203 (rel. November 27, 2000) ("*Secondary Markets Notice*").

⁵⁰⁷ See *Secondary Markets Notice* at ¶ 93 citing , *Principles of Spectrum to Encourage the Development of Telecommunication Technologies for the New Millennium*, Policy Statement, 14 FCC Rcd at 19870-71 at ¶ 9.

⁵⁰⁸ See *In the Matter of Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets*, Policy Statement, 15 FCC Rcd 24178 at ¶ 2.

⁵⁰⁹ See No. 5.492 of the International Radio Regulations.

149. We requested comment on whether a flexible use policy will help ensure that currently unused western locations are put to use and, in addition, whether we should apply a flexible use policy to all of the orbital locations available for DBS service or only to the western orbital locations. We also sought comment on the appropriateness of such restrictions before and after the initial five years of the license term, particularly at those orbital locations in the western arc that are currently not being used. Two DBS licensees are providing full and robust DBS service from locations capable of serving all the contiguous United States (“CONUS”), and one that sees most of the eastern half of the continental United States, but locations in the western portion of the orbital arc that are not capable of serving the east coast remain unused.

150. The States of Alaska and Hawaii assert that any non-conforming use policy that is adopted should apply to only the western locations and argue that the current non-conforming use rules should remain intact for satellites in the full-CONUS slots (*i.e.*, 101° W.L., 110° W.L. and 119° W.L.). Hawaii states that permitting DBS licensees to use full-CONUS slots to provide even less DBS programming would only increase their incentive to evade the Commission’s public interest programming requirements.⁵¹⁰ EchoStar agrees that, indeed, additional flexibility for DBS spectrum will increase the viability of non-CONUS DBS orbital locations.⁵¹¹ At the same time, however, EchoStar states that it would be wrong to remove the current limits only for the western orbital locations and argues in favor of flexibility for all orbital locations.⁵¹² EchoStar contends that relaxation of the non-conforming use policy will not reduce satellite deployment for both CONUS or non-CONUS locations.⁵¹³

151. Relaxation of restrictions for the western channels may ensure that valuable spectrum is not being wasted. Also, consistent with the Commission’s spectrum management policies, we conclude that relaxing restrictions will promote greater spectrum efficiency by allowing licensees to determine which satellite services would be most valuable to their customers. Licensees may well develop new and innovative uses or pair DBS video services with other service offerings. Making better use of unused satellite spectrum, such as the western channels, could provide an incentive to offer niche services to areas in the west as well as to Alaska and Hawaii.⁵¹⁴

152. We believe that greater flexibility for channel use at all the DBS orbital locations will help operators to compete with other MVPD providers, that have no similar use restrictions. Cable operators have been upgrading their networks at a rapid pace to add new services such as video-on-demand, telephony, and Internet and high-speed data services.⁵¹⁵ Moreover, satellite providers are developing broadband services.⁵¹⁶ Allowing other uses of DBS spectrum may, for example, enable licensees to develop a group of profitable services in a situation in which providing only DBS services would not be profitable. We note that two DBS operators have begun offering two-way consumer broadband data

⁵¹⁰ *Id.*

⁵¹¹ *See* Supplemental Comments of EchoStar Satellite Corporation at 3.

⁵¹² *Id.*

⁵¹³ *See* Reply Comments of EchoStar Satellite Corporation at 1.

⁵¹⁴ *See In the Matter of Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, FCC 00-402, WT Docket No. 00-230 (rel. November 27, 2000) (“*Secondary Markets Notice*”).

⁵¹⁵ *See 2001 Cable Competition Report* at ¶¶ 34-54.

⁵¹⁶ *Id.* at ¶ 37.

offerings. DirecPC from Hughes and Starband, in partnership with Gilat, EchoStar and Microsoft have both begun offering two-way consumer Internet access using Ku-band satellite but not on DBS frequencies.⁵¹⁷ To compete with cable, satellite operators can rely on the relaxed use rules that we adopt here to expand their broadband services, using their downlink allocation in conjunction with other frequency assignments. As EchoStar points out, consumer needs and demands have changed dramatically. Where in the past consumers received only video services from their cable operator they are now receiving a variety of enhanced services including data access and high-speed Internet access. To maximize use of DBS spectrum and to provide DBS licensees the ability to provide expanded service offerings to better compete with cable, we conclude that more flexibility in the use of all DBS locations is warranted.

153. We also requested comment on whether relaxed uses should be limited to other fixed-satellite service (“FSS”), as permitted by the U.S. Table of Frequency Allocations.⁵¹⁸ Moreover, if we allow non-conforming uses of DBS spectrum, should we require those services to conform to the interference criteria associated with DBS, the primary service. EchoStar contends that there are no interference concerns implicated in allowing non-conforming uses of DBS spectrum.⁵¹⁹ EchoStar states that all DBS licensees must show that these services do not cause harmful interference in the first place. We received no other comments on frequency allocation or interference issues. Under present policy, we have permitted non-conforming uses for an initial five-year period, and with certain limitations, for the remainder of the first satellite’s lifetime. These uses have been subject to the interference criteria associated with the DBS service. We are aware of no instances of harmful interference caused by non-conforming services that have arisen under this approach and thus we will not adopt different interference criteria for non-conforming uses of DBS spectrum.

154. Finally, we requested comment on whether we should relax use restrictions for foreign-licensed facilities that are permitted to serve the United States (*e.g.*, those satellite systems licensed in Argentina and Mexico).⁵²⁰ The States of Alaska and Hawaii maintain that both U.S.-licensed and non-U.S.-licensed DBS operators should be permitted to use non-full CONUS (*i.e.* western orbital locations) orbital slots to provide any direct-to-consumer services of any type subject to strict requirements.⁵²¹ Hawaii urges the Commission to mandate that DBS providers serving foreign countries also provide equal service available to the States of Alaska, Hawaii, and as much of the continental United States as is technically feasible (*i.e.* any and all services provided to non-U.S. residents utilizing the western (non CONUS) DBS locations should be made available to Alaska and Hawaii).⁵²² The Commission permits certain non-U.S. DBS operators to provide service to U.S. residents, subject to the same rules as domestic providers. We conclude non-U.S. licensed DBS providers should have the same flexibility as U.S. licensed providers to tailor their service offerings to consumer demand. Thus non-U.S. licensees can provide the same variety of customer offerings as a U.S. licensees subject to technical and legal requirements and they must offer these services to Alaska and Hawaii if it is technically feasible to do

⁵¹⁷ See also Satellite Communications Industry Overview, Bus Tour, A Quantitative Overview of the Satellite Industry: Growth Driven by Media Services (First Quarter 2001) at 22-28.

⁵¹⁸ See *DBS Ancillary Uses PN* at 2; see also 47 C.F.R. § 2.106.

⁵¹⁹ See Supplemental Comments of EchoStar Satellite Corporation at 3; Supplemental Comments of Alaska at 2.

⁵²⁰ See *DBS Ancillary Uses PN* at 3. See *Mexican Protocol*; See also *Argentine Protocol*.

⁵²¹ See Comments of Hawaii at 3 and 6; and Supplemental Reply Comments of Alaska at 1.

⁵²² Comments of Hawaii at 7.

so.⁵²³ We decline to mandate DBS operators provide the same services to Alaska and Hawaii that they provide to non-U.S. countries. Requiring the same service to Alaska and Hawaii as is offered to foreign countries would be an additional requirement placed on U.S. DBS operators providing service to non-U.S. countries that would not apply to non-U.S. licensed DBS operators providing service to the United States. Therefore, we decline to impose such different regulation.

155. We conclude that we will allow non-conforming satellite use for all orbital locations, including the western orbital locations, for downlink satellite services that meet the technical requirements for interference protection. Therefore, DBS licensees are free to provide non-conforming services on as many transponders on any of their satellites for as large a fraction of the time as they wish subject to the Commission's other requirements for DBS.

IV. CONCLUSION

156. By our action today, we adopt policies and regulations that are pro-competitive and deregulatory in nature. These rules are designed to make DBS a more competitive service by streamlining and clarifying the rules for DBS providers. By incorporating the Part 100 rules into Part 25 of the Commission's rules we harmonize the DBS licensing process with the licensing process for other services. Moreover, we believe that these rules will serve the public interest by promoting fair and effective competition in the MVPD market which, in turn, will result in consumer benefits such as more service offerings, better consumer service, and competitive prices. In addition, these rules promote the development of creative and new service offerings by relaxing the rule for non-conforming use of DBS spectrum.

V. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Certification

157. The Regulatory Flexibility Act of 1980, as amended ("RFA"),⁵²⁴ requires that a regulatory flexibility analysis be prepared for notice and comment rule making proceedings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."⁵²⁵ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁵²⁶ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁵²⁷ A "small business concern" is one which: (1) is independently owned and

⁵²³ See *DBS Ancillary Uses PN* at 3. See *Mexican Protocol*; See also *Argentine Protocol*.

⁵²⁴ The RFA, see 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

⁵²⁵ 5 U.S.C. § 605(b).

⁵²⁶ 5 U.S.C. § 601(6).

⁵²⁷ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (“SBA”).⁵²⁸

158. As required by the RFA,⁵²⁹ an Initial Regulatory Flexibility Analysis (“IRFA”) was incorporated in the *Notice of Proposed Rulemaking* (“Notice”) in IB Docket No. 98-21.⁵³⁰ The Commission sought written public comments on the proposals in the Notice including comments on the IRFA. There were no comments, which discussed or addressed the IRFA; nor were there comments on the effect of the proposed rules on small businesses. Nonetheless, the Commission considered the potential significant economic impact of the proposed rules on small entities.

159. In this Report and Order the Commission streamlines and harmonizes the Commission’s direct broadcast satellite (“DBS”) service rules with other regulations governing satellite communications. Our objective is to consolidate, where possible, the DBS services rules with the rules for other satellite services and eliminate separate, DBS-specific rules in Part 100 of the Commission’s rules. Because DBS provides subscription services, DBS falls within the SBA-recognized definitions of “Cable Networks” and “Cable and Other Program Distribution.”⁵³¹ These definitions provide that small entities are ones with \$11.0 million or less in annual receipts.⁵³² Small businesses, *i.e.* ones with less than \$11.0 million in annual receipts, do not have the financial ability to become DBS licensees because of the high implementation costs associated with satellite services. Because this is an established service, with limited spectrum and orbital resources for assignment, we estimate that no more than 15 entities will be Commission licensees providing these services. In addition, because of the high implementation costs and the limited spectrum resources we believe that none of the 15 licensees will be small entities. We expect that no small entities will be impacted by this rulemaking. Therefore, we certify that the requirements of the Report and Order will not have a significant economic impact on a substantial number of small entities.

160. The Commission will send a copy of the Report and Order, including a copy of this Final Regulatory Flexibility Certification, in a report to Congress pursuant to the Congressional Review Act.⁵³³ In addition, the *Report and Order* and this final certification will be sent to the Chief Counsel for Advocacy of the SBA, and will be published in the Federal Register.⁵³⁴

B. Paperwork Reduction Act Analysis.

161. This Order contains proposed new and modified information collections. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections

⁵²⁸ 15 U.S.C. § 632.

⁵²⁹ See 5 U.S.C. § 603.

⁵³⁰ See *In re Policies and Rules for the Direct Broadcast Satellite Service*, Notice of Proposed Rulemaking, IB Docket No. 98-21, 13 FCC Rcd 6907 (1998).

⁵³¹ 13 CFR § 121.201, North American Industry Classification Systems (NAICS) codes 513210 and 513220.

⁵³² 13 CFR § 121.201, NAICS codes 513210 and 513220.

⁵³³ See 5 U.S.C. § 801(a)(1)(A).

⁵³⁴ See 5 U.S.C. § 605(b).

contained in this Order, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

162. Written comments on the proposed new and modified information collections must be submitted on or before 60 days after date of publication in the Federal Register. A copy of any comments on the information collections contained herein should be submitted to Judy Boley Herman, Federal Communications Commission, Room 1-C804, 445 12th Street, SW, Washington, DC 20554, or via the Internet to jboley@fcc.gov.

VI. ORDERING CLAUSES

163. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 7(a), 11, 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157(a), 161, 303(c), 303(f), 303(g), 303(r), that this Report and Order is hereby ADOPTED.

164. Accordingly, IT IS ORDERED that Part 25 of the Commission's rules is amended as specified in Appendix B, effective 30 days after publication in the Federal Register.

165. IT IS FURTHER ORDERED that the Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

Appendix A**LIST OF PARTIES****Comments/Petitions:**

1. The State of Alaska
2. Ameritech
3. BellSouth Corp., BellSouth Interactive Media Services, Inc., and BellSouth Wireless Cable, Inc.
4. The Coalition for Satellite Competition
5. DIRECTV, Inc.
6. Dominion Video Satellite, Inc.
7. EchoStar Communications Corporation
8. The State of Hawaii
9. Loral Space & Communications Ltd.
10. Microcom
11. National Cable Television Association
12. National Rural Telecommunications Cooperative
13. News Corporation Limited
14. Office of Communications, United Church of Christ and Consumers Union
15. PanAmSat Corporation
16. Primestar, Inc.
17. SkyBridge, L.L.C.
18. Tempo Satellite, Inc.
19. Time Warner Cable
20. United States Satellite Broadcasting Company, Inc.
21. Univision Communications, Inc.
22. Wireless Cable Association International, Inc.

Reply Comments:

1. The Coalition for Satellite Competition
2. DIRECTV, Inc.
3. EchoStar Communications Corporation
4. Loral Space & Communications Ltd.
5. Northpoint Technology
6. Primestar, Inc.
7. SkyBridge, L.L.C.
8. Time Warner Cable
9. United States Satellite Broadcasting Company, Inc.
10. Univision Communications, Inc.

Ex Parte Comments:

1. State of Alaska (January 14, 2002)
2. The State of Hawaii (January 11, 2002)
3. The State of Hawaii (October 25, 2001)
4. EchoStar Communications Corporation (March 14, 2001)
5. The State of Hawaii (March 16, 2001)
6. The State of Hawaii (January 29, 2001)

7. The State of Hawaii (November 21, 2001)
8. The State of Hawaii (October 30, 2000)
9. Senator Inouye, et. al. (October 6, 2000)
10. Microcom (March 7, 2000)
11. State of Hawaii (November 3, 1999)
12. PanAmSat Corporation (August 16, 1999)
13. State of Alaska (August 13, 1999)
14. Governor of the State of Alaska (August 6, 1999)
15. The State of Hawaii (June 24, 1999)
16. The State of Hawaii (August 8, 1998)
17. The State of Hawaii (July 14, 1998)
18. Microcom

Congressionals:

1. Representative Patsy Mink (D-HI) (Sept. 18, 2000 and Dec. 27, 1999)
2. Senator Daniel K. Akaka (D-HI) (January 4, 2000)
3. Senator Ted Stevens (R-AK) (February 15, 2000 and Sept. 21, 2000)
4. Senator Inouye (D-HI) (March 19, 1998 and Sept. 21, 2000)

Public Notice Comments:

1. EchoStar Communications Corporation
2. The State of Hawaii

Reply Comments:

1. DIRECTV, Inc.
2. The State of Alaska

Appendix B: FINAL RULES

For the reasons discussed above, the Federal Communications Commission amends title 47 of the Code of Federal Regulations, part 25, as follows:

PART 25 -- SATELLITE COMMUNICATIONS

1. The authority citation for Part 25 continues to read as follows:

AUTHORITY: 47 U.S.C. 701-744. Interprets or applies Sections 4, 301, 302, 303, 307, 309, and 332 of the Communications Act, as amended, 47 U.S.C. Sections 154, 301, 302, 303, 307, 309, 332, unless otherwise noted.

Title 47 of the Code of Federal Regulations, Part 25, are amended as follows:

2. Section 25.109 is amended by removing paragraph (b) and by redesignating paragraph (c) as paragraph (b).

3. Section 25.111 is amended by adding paragraph (c) to read as follows:

§ 25.111 Additional information.

* * * * *

(c) In the Direct Broadcast Satellite service, applicants and licensees shall also provide the Commission with all information it requires in order to modify the Appendix 30 Broadcasting-Satellite Service (“BSS”) Plans and associated Appendix 30A feeder-link Plans, if the system uses technical characteristics differing from those specified in the Appendix 30 BSS Plans, the Appendix 30A feederlink Plans, Annex 5 to Appendix 30 or Annex 3 to Appendix 30A. For such systems, no protection from interference caused by radio stations authorized by other Administrations is guaranteed until the agreement of all affected Administrations is obtained and the frequency assignment becomes a part of the appropriate Region 2 BSS and feeder-link Plans. Authorizations for which coordination is not completed and/or for which the necessary agreements under Appendices 30 and 30A have not been obtained may be subject to additional terms and conditions as required to effect coordination or obtain the agreement of other Administrations. Applicants and licensees shall also provide the Commission with the necessary Appendix 4 information required by the ITU Radiocommunication Bureau to advance publish, coordinate and notify the frequencies to be used for tracking, telemetry and control functions of DBS systems.

4. Section 25.114 is amended revising paragraphs (c)(13) and (c)(14), and adding new paragraph (c)(22), to read as follows:

§ 25.114 Applications for space station authorizations.

* * * * *

(c) * * *

(5) * * *

* * * * *

(13) Space station license applicants subject to this section other than Direct Broadcast Satellite applicants shall provide detailed information demonstrating the financial qualifications of the applicant to construct and launch the proposed satellites. Applications shall provide the financial information required by Sec. 25.140 (b) through (e), Sec. 25.142(a)(4), or Sec. 25.143(b)(3), as appropriate;

(14) A clear and detailed statement of whether the space station is to be operated on a common carrier basis, or whether non-common carrier transactions are proposed. If non-common carrier transactions are proposed, describe the nature of the transactions and specify the number of transponders to be offered on a non-common carrier basis. In addition, satellite applications in the Direct Broadcast Satellite service must provide a clear and detailed statement of whether the space station is to be operated on a broadcast or non-broadcast basis.

* * * * *

(22) For satellite applications in the Direct Broadcast Satellite service, if the proposed system's technical characteristics differ from those specified in the Appendix 30 BSS Plans, the Appendix 30A feeder link Plans, Annex 5 to Appendix 30 or Annex 3 to Appendix 30A, each applicant shall provide:

(i) the information requested in Appendix 4 of the ITU's Radio Regulations. Further, applicants shall provide sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented.

(ii) analyses of the proposed system with respect to the limits in Annex 1 to Appendices 30 and 30A.

5. Section 25.121 is amended by revising paragraph (a) to read as follows:

§ 25.121 License term and renewals.

(a) License Term. Except for licenses for DBS facilities, licenses for facilities governed by this part will be issued for a period of 15 years. Licenses for DBS space stations licensed as broadcast facilities will be issued for a period of 8 years. Licenses for DBS space stations not licensed as broadcast facilities will be issued for a period of 10 years.

* * * * *

6. Part 25 is amended by adding new Section 25.148 to read as follows:

§ 25.148 Licensing Provisions for the Direct Broadcast Satellite Service.

(a) License terms. License terms for DBS facilities are specified in § 25.121(a) of this Chapter.

(b) Due diligence. (1) All persons granted DBS authorizations shall proceed with due diligence in constructing DBS systems. Permittees shall be required to complete contracting for construction of the satellite station(s) within one year of the grant of the authorization. The satellite stations shall also be required to be in operation within six years of the authorization grant.

(2) In addition to the requirements stated in paragraph (1) of this section, all persons who receive new or additional DBS authorizations after January 19, 1996 shall complete construction of the first satellite in their respective DBS systems within four year of grant of the authorization. All satellite stations in such a DBS system shall be in operation within six years of the grant of the authorization.

(3) DBS licensees shall be required to proceed consistent with all applicable due diligence obligations, unless otherwise determined by the Commission upon proper showing in any particular case. Transfer of control of the authorization shall not be considered to justify extension of these deadlines.

(c) Geographic service requirements. Those entities acquiring DBS authorizations after January 19, 1996, or who after January 19, 1996 modify a previous DBS authorization to launch a replacement satellite, must provide DBS service to Alaska and Hawaii where such service is technically feasible from the authorized orbital location. This requirement does not apply to DBS satellites authorized to operate at the 61.5° W.L. orbital location. DBS applicants seeking to operate from locations other than 61.5° W.L. who do not provide service to Alaska and Hawaii, must provide technical analyses to the Commission demonstrating that such service is not feasible as a technical matter, or that while technically feasible such services would require so many compromises in satellite design and operation as to make it economically unreasonable.

(d) DBS subject to competitive bidding. Mutually exclusive initial applications to provide DBS are subject to competitive bidding procedures. The general competitive bidding procedures set forth in Part 1, Subpart Q of this chapter will apply unless otherwise provided in this part.

(e) DBS long form application. Winning bidders are subject to the provisions of § 1.2107 of this chapter except that in lieu of a FCC Form 601 each winning bidder shall submit the long-form satellite service application (FCC Form 312) within thirty (30) days after being notified by Public Notice that it is the winning bidder. Each winning bidder will also be required to submit by the same deadline the information described in Part 25, § 25.215 (Technical) and § 25.601 (EEO), and in paragraph (f) of this section. Each winner also will be required to file, by the same deadline, a signed statement describing its efforts to date and future plans to come into compliance with any applicable spectrum limitations, if it is not already in compliance. Such information shall be submitted pursuant to the procedures set forth in § 25.114 and any associated Public Notices.

(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.

7. Amend § 25.201 by adding the following definition:

§25.201 Definitions.

* * * * *

Direct Broadcast Satellite Service. A radiocommunication service in which signals transmitted or retransmitted by space stations, using frequencies specified in § 25.202(a)(7), are intended for direct reception by the general public. For the purposes of this definition, the term direct reception shall encompass both individual reception and community reception.

* * * * *

8. Amend Section 25.202 by revising footnote 9 in paragraph (a)(1) by adding paragraph (a)(7) to read as follows:

§ 25.202 Frequencies, frequency tolerance and emission limitations.

(a) * * *

* * * * *

⁹The use of the band 17.3-17.8 GHz by the Fixed-Satellite Service (Earth-to-space) is limited to feeder links for the Direct Broadcast Satellite Service, and the sub-band 17.7-17.8 GHz is shared co-equally with terrestrial fixed services.

* * * * *

(a)(7) The following frequencies are available for use by the Direct Broadcast Satellite service:
12.2 - 12.7 GHz: Space-to-Earth.

9. Amend Part 25 by adding new Section 25.215 to read as follows:

§ 25.215 Technical requirements for space stations in the Direct Broadcast Satellite Service.

In addition to Section 25.148(f), space station antennas operating in the Direct Broadcast Satellite service must be designed to provide a cross-polarization isolation such that the ratio of the on-axis co-polar gain to the cross-polar gain of the antenna in the assigned frequency band shall be at least 30 dB within its primary coverage area.

10. Section 25.601 is revised to read as follows:

§ 25.601 Equal employment opportunity requirement.

Notwithstanding other EEO provisions within these rules, an entity that uses an owned or leased fixed-satellite service or direct broadcast satellite service facility (operating under this part) to provide video programming directly to the public on a subscription basis must comply with the equal employment opportunity requirements set forth in part 76, subpart E, of this chapter, if such entity exercises control (as defined in part 76, subpart E, of this chapter) over the video programming it distributes. Notwithstanding other EEO provisions within these rules, a licensee or permittee of a direct broadcast satellite station operating as a broadcaster must comply with the equal employment opportunity requirements set forth in part 73.

11. Amend part 25 to add a subpart J to Part 25, Section 25.701 to read as follows:

Subpart J-Public Interest Obligations

§ 25.701 Public Interest Obligations.

(a) DBS providers are subject to the public interest obligations set forth in paragraphs (b) and (c) of this section. For purposes of this rule, DBS providers are any of the following:

(1) Entities licensed to operate satellites in the 12.2-12.7 GHz DBS frequency bands; or

(2) Entities licensed to operate satellites in the Ku-band fixed satellite service and that sell or lease capacity to a video programming distributor that offers service directly to consumers providing a sufficient number of channels so that four percent of the total applicable programming channels yields a set-aside of at least one channel of non-commercial programming pursuant to paragraph (c) of this section, or

(3) Non-U.S. licensed satellite operators in the Ku-band that offer video programming directly to

consumers in the United States pursuant to an earth station license issued under part 25 of this title and that offer a sufficient number of channels to consumers so that four percent of the total applicable programming channels yields a set-aside of one channel of non-commercial programming pursuant to paragraph (c) of this section,

(b) *Political broadcasting requirements-*

(1) *Reasonable access.* DBS providers must comply with §312(a)(7) of the Communications Act of 1934, as amended, by allowing reasonable access to, or permitting purchase of reasonable amounts of time for, the use of their facilities by a legally qualified candidate for federal elective office on behalf of his or her candidacy.

(2) *Use of facilities.* DBS providers must comply with §315 of the Communications Act of 1934, as amended, by providing equal opportunities to legally qualified candidates.

(c) *Carriage obligation for noncommercial programming*

(1) *Reservation requirement.* DBS providers shall reserve four percent of their channel capacity exclusively for use by qualified programmers for noncommercial programming of an educational or informational nature. Channel capacity shall be determined annually by calculating, based on measurements taken on a quarterly basis, the average number of channels available for video programming on all satellites licensed to the provider during the previous year. DBS providers may use this reserved capacity for any purpose until such time as it is used for noncommercial educational or informational programming.

(2) *Qualified programmer.* For purposes of these rules, a qualified programmer is:

(i) A noncommercial educational broadcast station as defined in §397(6) of the Communications Act of 1934, as amended,

(ii) A public telecommunications entity as defined in §397(12) of the Communications Act of 1934, as amended,

(iii) An accredited nonprofit educational institution or a governmental organization engaged in the formal education of enrolled students (A publicly supported educational institution must be accredited by the appropriate state department of education; a privately controlled educational institution must be accredited by the appropriate state department of education or the recognized regional and national accrediting organizations), or

(iv) A nonprofit organization whose purposes are educational and include providing educational and instructional television material to such accredited institutions and governmental organizations.

(v) Other noncommercial entities with an educational mission.

(3) *Editorial control.*

(i) A DBS operator will be required to make capacity available only to qualified programmers and may select among such programmers when demand exceeds the capacity of their reserved channels.

(ii) A DBS operator may not require the programmers it selects to include particular programming on its channels.

(iii) A DBS operator may not alter or censor the content of the programming provided by the qualified programmer using the channels reserved pursuant to this section.

(4) *Non-commercial channel limitation.* A DBS operator cannot initially select a qualified programmer to fill more than one of its reserved channels except that, after all qualified entities that have sought access have been offered access on at least one channel, a provider may allocate additional channels to qualified programmers without having to make additional efforts to secure other qualified programmers.

(5) *Rates, terms and conditions.*

(i) In making the required reserved capacity available, DBS providers cannot charge rates that exceed costs that are directly related to making the capacity available to qualified programmers. Direct costs include only the cost of transmitting the signal to the uplink facility and uplinking the signal to the satellite.

(ii) Rates for capacity reserved under paragraph (a) of this section shall not exceed 50 percent of the direct costs as defined in this section.

(iii) Nothing in this section shall be construed to prohibit DBS providers from negotiating rates with qualified programmers that are less than 50 percent of direct costs or from paying qualified programmers for the use of their programming.

(iv) DBS providers shall reserve discrete channels and offer these to qualifying programmers at consistent times to fulfill the reservation requirement described in these rules.

(6) *Public file.*

(i) Each DBS provider shall keep and permit public inspection of a complete and orderly record of:

(A) Quarterly measurements of channel capacity and yearly average calculations on which it bases its four percent reservation, as well as its response to any capacity changes;

(B) A record of entities to whom noncommercial capacity is being provided, the amount of capacity being provided to each entity, the conditions under which it is being provided and the rates, if any, being paid by the entity;

(C) A record of entities that have requested capacity, disposition of those requests and reasons for the disposition; and

(D) A record of all requests for political advertising time and the disposition of those requests.

(ii) All records required by this paragraph shall be placed in a file available to the public as soon as possible and shall be retained for a period of two years.

(7) *Effective date.* DBS providers are required to make channel capacity available pursuant to this section upon the effective date. Programming provided pursuant to this rule must be available to the public no later than six months after the effective date.

11. Part 100 [removed].

12. Amend Title 47 by removing Part 100.

**JOINT STATEMENT OF
COMMISSIONERS KEVIN J. MARTIN AND KATHLEEN Q. ABERNATHY**

In the Matter of Policies and Rules for the Direct Broadcast Satellite Service, Report and Order, IB Docket No. 98-21.

We are pleased to support this Order revising our rules governing Direct Broadcast Satellite (“DBS”) service and finally giving meaning to our rule that DBS operators “must provide DBS service to Alaska and Hawaii.” Consumers in these two states deserve access to similar DBS service options as their counterparts in the Mainland, and today we clarify our rule accordingly. We explain that our requirement to provide “service” to Alaska and Hawaii means that DBS providers must offer packages of services in Alaska and Hawaii that are reasonably comparable to what they offer in the contiguous 48 states. We believe this clarification will benefit consumers in Alaska and Hawaii tremendously, finally enabling them to enjoy the rich diversity of programming that DBS provides.

**SEPARATE STATEMENT OF COMMISSIONER MICHAEL J. COPPS
DISSENTING IN PART, APPROVING IN PART**

In the Matter of Policies and Rules for the Direct Broadcast Satellite Service, IB Docket No. 98-21.

I support this Commission effort to clarify and streamline our existing rules. Consumers and companies have a right to the regulatory certainty that comes with clear and enforceable rules, and to the resolution of the long-pending consideration of these rules.

But some “streamlining” is not merely cosmetic, and instead may whittle away at important Congressional policies and goals. I am disturbed by the majority’s decision to eliminate the provisions of our rules that track the foreign ownership restrictions of the Communications Act, and by what seems to me to be a lack of a strong policy rationale for this decision. I therefore dissent from the elimination of the provisions of Section 100.11.

Congress imposed a broad private foreign ownership restriction in Section 310(b) of the Act, restricting investment by foreign corporations or individuals in licensees across a range of communications services. When Congress adopted this provision, it could not have anticipated that a direct satellite service would be providing video service to millions of American homes. In adopting Section 100.11 in 1982, the Commission applied the statutory provision to DBS, intending, as the decision of the majority notes, that this new service be subject to the foreign ownership limitations set out by Congress. In a later decision, unrelated to foreign ownership, the Commission found that subscription DBS services are not “broadcasting.” It is this decision that has been the basis of waivers of Section 100.11 for DBS providers.

The majority explains the decision to eliminate this rule in part relying upon the fact that the rule is so frequently waived that it needs to be eliminated to create regulatory certainty. That seems to be a false logic – regulatory certainty could be achieved as easily by the retention and application of the rule. Similarly inadequate is the argument that the foreign ownership restriction disadvantages DBS vis-à-vis other services not subject to such restrictions, such as direct-to-home service and cable service. I do not see where these arguments provide sufficient rationale to dispense with the codification of the statutorily mandated foreign ownership limitations for the DBS service.

On a separate issue, I support the expansion of the requirements for DBS service in Alaska and Hawaii. Indeed, I was open to going even further to ensure that the citizens of Alaska and Hawaii receive packages of services comparable in programming, price and quality to those available to citizens of the mainland states. In parts of Alaska and Hawaii there are few options for consumers seeking multi-channel video programming. Given that some consumers in Alaska and Hawaii may not have a range of choices in their video programming provider, it is important that DBS provide service comparable to that provided to consumers on the mainland. Because of the difficulty in evaluating comparable packages, however, I support the decision to require DBS providers to serve Alaska and Hawaii with packages of services that are “reasonably” comparable to those available to citizens of the mainland. By packages of services, we refer to all offerings of programming to customers, including the base-programming offering. I expect the services provided to the citizens of Alaska and Hawaii to be no less than those provided on the mainland.

