

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

In the Matter of)
Spectrum Five, LLC) File Nos.: SAT-LOI-20050312-00062
Petition for Declaratory Ruling to Serve) SAT-LOI-20050312-00063
the U.S. Market Using Broadcast Satellite) Call Signs: S2667, S2668
Service (BSS) Spectrum from the 114.5°)
W.L. Orbital Location)

ORDER AND AUTHORIZATION

Adopted: November 29, 2006

Released: November 29, 2006

By the Acting Chief, International Bureau:

I. INTRODUCTION

1. In this Order, we grant Spectrum Five, LLC's ("Spectrum Five") request for declaratory ruling seeking access to the United States from two Netherlands-authorized satellites to provide Direct Broadcast Satellite ("DBS") service to U.S. consumers. Our decision to grant Spectrum Five authority to access the United States from two satellites to be located at the 114.5° W.L. orbital location will offer an opportunity for increased competition in the U.S. DBS market. Increased competition could provide consumers more satellite programming choices, more alternatives in subscription video providers and services at reduced prices for those services, and further technological innovation.

II. BACKGROUND

2. DBS Regulatory History. DBS satellites serving the United States are governed by Commission policies and rules. Their operation is also governed by international regulations administered by the International Telecommunication Union ("ITU"). The ITU Radio Regulations apportion spectrum and orbit locations for the Broadcasting Satellite Service ("BSS") among all nations

1 See Spectrum Five LLC, Petitions for Declaratory Ruling To Serve the U.S. Market Using BSS Spectrum from the 114.5° W.L. Orbital Location, File Nos. SAT-LOI-20050312-00062 and SAT-LOI-20050312-00063 (filed March 12, 2005) ("Spectrum Five Petitions"). The content of these petitions is substantially the same and they will be referred to as the "Spectrum Five Petitions" throughout this Order. Spectrum Five requests authority to provide DBS services, including local-into-local services, to the United States (including Alaska and Hawaii), Puerto Rico, and the U.S. Virgin Islands.

2 The ITU, headquartered in Geneva, Switzerland, is an international organization within the United Nations System where administrations coordinate global telecommunication networks and services.

3 BSS is the international term used for a radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. See 47 C.F.R. § 2.1. DBS is the term used (Continued...)

in various geographic regions in certain planned frequency bands⁴ on a regional basis through agreements reached at Regional and World Radiocommunication Conferences.⁵ 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. In the early 1980's, ITU members reached agreement on assigning BSS spectrum at specific orbit locations among the ITU's Region 2 member countries.⁶ Under the terms of the Region 2 BSS and feeder link Plans, the United States is assigned eight orbital locations for providing broadcasting-satellite service.⁷ 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°. Three of these orbital locations, 101° W.L., 110° W.L., and 119° W.L., can provide coverage of the 48 contiguous United States ("CONUS"). Each of the eight orbital locations is capable of providing 32 channels, each using 24 megahertz of bandwidth.⁸ Currently, U.S. DBS orbit assignments are separated by at least nine degrees. The nine-degree orbital spacing in the DBS service enables subscribers to use earth station antennas that are smaller than those generally employed for C- and Ku-band services.⁹

3. The orbital spacing between DBS 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.¹⁰ The Commission took notice of the possibility of

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in the United States to describe the domestic implementation of the BSS international service in the 12.2-12.7 GHz band.

⁴ 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 and 17.3-18.1 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.

⁵ 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").

⁶ ITU Region 2 includes North, Central, and South America and Greenland. See Article 5, Section I of the ITU Radio Regulations. The ITU Region 2 BSS Plan is comprised of the Plan for BSS in the band 12.2-12.7 GHz in ITU Region 2, as contained in Appendix 30 of the ITU Radio Regulations, and the associated Plan for the feeder-links in the frequency band 17.3-17.8 GHz for the broadcasting-satellite service in Region 2, as contained in Appendix 30A of the ITU Radio Regulations.

⁷ See Appendix 30 of the ITU's Radio Regulations.

⁸ Digital compression enables operators to carry multiple video-programming services per 24 megahertz DBS channel. Current technology permits up to 12 digital channels per 24 megahertz DBS channel. See e.g. <http://www.lyngsat.com/packages/dish110.html> (visited on October 18, 2006) showing a large percentage of the transponders (24 MHz DBS channels) carrying 12 or more channels of television programming.

⁹ Earth station antennas with a diameter of 45 cm (18 inches) are commonly employed in the DBS service, whereas earth station antennas employed in the Ku-band direct-to-home (DTH)-FSS are generally on the order of 0.84 to 1 meter (about 36 inches) in diameter and earth station antennas employed in the C-band DTH-FSS are generally on the order of 3 meters (about 10 feet).

¹⁰ Policies and Rules for the Direct Broadcast Satellite Service, *Report and Order*, IB Docket No. 98-21, 17 FCC Rcd 11331, 11391 at para. 129 (2002) ("*Part 100 Order*").

reduced-spacing DBS satellites in 2002. In the *Part 100 Order*, the Commission stated that provision of 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.”¹¹ Also in the *Part 100 Order*, the Commission adopted Section 25.114(c)(22)(i), which required that applicants provide sufficient technical showings that their proposed systems could operate satisfactorily if all assignments in the BSS and feeder-link Plans are implemented,¹² and Section 25.114(c)(22)(ii),¹³ which required that applicants provide analyses of the proposed system with respect to the limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations.¹⁴ The Commission also adopted Section 25.148(f), which states that operation of DBS systems with characteristics differing from those in the Appendix 30 and 30A plans 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.¹⁵ The Commission also stated that in accordance with the ITU 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 in the United States. The ITU modification process will identify the U.S. DBS systems that are affected by the proposed Plan modification of another administration, giving the United States an opportunity to work with the subject administration to ensure that no modification is made that will cause harmful interference to U.S. DBS systems.¹⁶ Considering these factors, the Commission found it unnecessary to adopt DBS receive earth station antenna performance requirements.¹⁷

¹¹ *Part 100 Order*, 17 FCC Rcd at 11391, para. 129 (2002).

¹² This rule section has since been renumbered as 25.114(d)(13)(i).

¹³ This rule section has since been renumbered as 25.114(d)(13)(ii).

¹⁴ Annex 1 contains technical criteria for determining whether a proposed BSS system will affect radiocommunications systems of other administrations.

¹⁵ The modification procedures for the Region 2 Plans are stipulated in Section 4.2 of Article 4 of Appendices 30 and 30A of the ITU Radio Regulations. Administrations start the process by filing the information required by Appendix 4 of the Radio Regulations to request a modification to the Plan. For U.S. Plan modifications, the Appendix 4 information is prepared by the satellite operators and submitted to the Commission, which reviews the information and forwards it to the ITU/BR. The Appendix 4 information includes such BSS satellite parameters as antenna beam footprint, transmitted power, modulation techniques, forward-error-correction techniques, earth station antenna characteristics (including typical subscriber terminal characteristics), and satellite orbital location.

¹⁶ As used in this order, the term “affected” or “affected operator” has the meaning given in the Annex 1 of Appendices 30 and 30A of the ITU Radio Regulations. Carrier-to-interference ratio is a measure at a reference point--typically, the input to the receiver--of the amount of power in the wanted signal, the “carrier” (C), compared to the amount of power in the interfering signal (I). The assessment of interference between ITU Region 2 Plan assignments is based on the concept of overall equivalent protection margin (“OEPM”). The OEPM is the overall margin relative to a predefined level of aggregate C/I ratio. The C/I ratio takes account of the interference from the co-channel operation of the interfering satellite as well as the nearest and next nearest neighboring channels both above and below the wanted channel in frequency. The interference is summed for all the beams of every assignment in the plan and every plan modification request preceding the proposed plan modification. This calculation is done for a number of earth station locations defined as downlink test points for each potentially affected plan assignment or preceding plan modification request. According to Annex 1 of Appendices 30 and 30A, if the effect of the proposed network is to reduce the OEPM of any channel and test point of any network in the plan or pending plan modification below -0.25 db, or if already negative, by 0.25 dB or more, that network is considered to be “affected” and the new network can only be added to the plan with the agreement of all the administrations whose networks are affected.

¹⁷ *Part 100 Order*, 17 FCC Rcd 11331, 11391-92 at para. 130.

4. *Spectrum Five Petitions.* Spectrum Five proposes to provide DBS service to U.S. consumers using two satellites at the 114.5° W.L. orbital location. The 114.5° W.L. orbital location that Spectrum Five proposes to use is less than nine degrees away from DBS satellites currently operated by DIRECTV and EchoStar that serve the United States from U.S.-assigned Region 2 BSS Plan orbit locations.¹⁸ The Spectrum Five Petitions were placed on Public Notice on April 15, 2005.¹⁹ SES Americom, EchoStar, and DIRECTV filed oppositions, comments, and reply comments.²⁰ SES Americom noted that it has priority at the ITU for the 114.5° W.L. orbital location via a filing made by the United Kingdom on behalf of the Gibraltar Regulatory Authority.²¹ SES Americom also says that if the Commission grants the Spectrum Five Petitions, such grant must include a condition that Spectrum Five is not entitled to interference protection from networks operating under prior ITU filings.²² DIRECTV requests us to dismiss the Spectrum Five Petitions for failure to provide a sufficient technical showing as required by Section 25.114(d)(13)(i) of the Commission's rules.²³ In addition, DIRECTV alleges that Spectrum Five's proposed operations will interfere with its existing and future operations.²⁴ EchoStar urges us to dismiss the petitions without prejudice or defer action on them until the Commission "concludes in a rulemaking proceeding that the interference that may be caused by [reduced spacing] satellites into U.S. orbital locations has been adequately addressed."²⁵ In particular, EchoStar raises concerns that the triple-feed antennas it is exploring for use in its system "complicates the interference analysis" for reduced-spacing DBS satellites in the vicinity of CONUS DBS satellites.²⁶

III. DISCUSSION

A. Filing and Processing Requests to Provide DBS Service in the United States

5. We grant Spectrum Five's Petitions pursuant to our statutory authority to grant authorizations where the applicant is legally, technically, and financially qualified and the public interest will be served.²⁷ Although the Commission is seeking comment on rules for processing applications and

¹⁸ DIRECTV operates DBS satellites at 101°, 110°, and 119° W.L. EchoStar operates DBS satellites at 61.5°, 110°, 119°, and 148° W.L.

¹⁹ See Satellite Policy Branch Information: Applications Accepted for Filing, *Public Notice*, Report No. SAT-00284 (rel. April 15, 2005).

²⁰ EchoStar and DIRECTV filed reply comments in response to Spectrum Five's Consolidated Response to the EchoStar and DIRECTV oppositions and SES Americom comments.

²¹ SES Americom comments on Spectrum Five LLC File Nos. SAT-LOI-20050312-00062/63 at 1-2.

²² *Id.* at 3. See also Letter from Paul J. Canessa, Chief Executive, Gibraltar Regulatory Authority, to Chairman Kevin J. Martin, Federal Communications Commission, May 12, 2005.

²³ DIRECTV Opposition to Spectrum Five LLC File Nos. ST-LOI-20050312-00062/63, at 1-2. Section 25.114(d)(13)(i) requires that applicants for DBS systems with technical characteristics that differ from those specified in the ITU Region 2 Plans "shall provide sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented." 47 C.F.R. § 25.114(d)(13)(i). See also Letter from William Wiltshire, Counsel for DIRECTV, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, August 24, 2006.

²⁴ DIRECTV Opposition to Spectrum Five LLC File Nos. SAT-LOI-20050312-00062/63, at 4-6.

²⁵ EchoStar Opposition to Spectrum Five LLC File Nos. SAT-LOI-20050312-00062/63, at 1-4.

²⁶ EchoStar Opposition to Spectrum Five LLC File Nos. SAT-LOI-20050312-00062/63, at 3.

²⁷ See, e.g., PANAMSAT LICENSEE CORP., Application for authority to construct, launch and operate a hybrid international communications satellite, *Order and Authorization*, 14 FCC Rcd 2719 (1998).

petitions for the provision of DBS service,²⁸ the pendency of that proceeding does not prevent us from acting on the Spectrum Five Petitions.²⁹ Specifically, given the Commission's general statutory authority under Sections 308 and 309 of the Communications Act, coupled with the application filing requirements and rules regarding non-interference showings, we find that we can process the Spectrum Five Petitions consistent with the public interest, convenience, and necessity.³⁰

6. We disagree with EchoStar and DIRECTV, who both argue that the Spectrum Five Petitions should be dismissed and/or that we should defer action on them until the Commission can complete a rulemaking proceeding addressing the technical issues associated with reduced spacing DBS.³¹ Instead, we find that current Commission rules can accommodate DBS applications filed prior to the freeze that specify operations at locations other than the eight orbital slots assigned to the United States in the ITU Region 2 Plan (as specified in Appendices 30 and 30A of the ITU Radio Regulations). The Commission's Part 25 rules refer to and incorporate provisions of the ITU Radio Regulations for purposes of analyzing applications for DBS with technical parameters that differ from those in the Region 2 Plan. Specifically, Section 25.114(d)(13)(i) requires that for satellites in the DBS service, applicants must submit a "sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS and feeder link Plans were implemented."³² This showing is intended to demonstrate that the proposed system will meet its performance objectives given the Region 2 Plan assignments. Section 25.114(d)(13)(ii) requires "[a]nalyse[s] of the proposed systems with respect to the limits in Annex 1 to Appendices 30 and 30A" of the International Telecommunication Union Radio Regulations.³³ This showing is intended to demonstrate how the proposed system will affect operating DBS systems and those systems that are subject to pending Region 2 modification proposals. Section 25.148(f) requires that "DBS operations must be in accordance with the sharing criteria and technical characteristics contained in Appendices 30 and 30A of the ITU 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

²⁸ Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service; Feasibility of Reduced Orbital Spacing for Provision of Direct Broadcast Satellite Service in the United States, IB Docket No. 06-160, *Notice of Proposed Rulemaking*, FCC 06-120, rel. August 18, 2006. (*DBS Notice*).

²⁹ Although the Commission has adopted a freeze on applications for new DBS service, Spectrum Five filed its petitions prior to the imposition of the freeze, which was limited to "applications for licenses for new space stations or for new requests for market access by foreign-licensed space stations." See *Direct Broadcast Satellite Service Auction Nullified: Commission Sets Forth Refund Procedures for Auction No. 52 Winning Bidders and Adopts a Freeze on All New DBS Service Applications*, *Public Notice*, 20 FCC Rcd 20618, 20619 (2005). Accordingly, the Spectrum Five Petitions are not subject to the freeze.

³⁰ See 47 C.F.R. §§ 25.114(d)(13), 25.156(a); 47 U.S.C. § 308(a) (stating that "the Commission may grant construction permits and station licenses . . . only upon written application therefore received by it"); § 308(b) (requiring that Section 308(a) applications set forth "such facts as the Commission by regulation *may* prescribe," but not requiring the Commission to prescribe such regulations) (emphasis added); § 309(a) (stating that "the Commission shall determine . . . whether the public interest, convenience, and necessity will be served by the granting of [a Section 308] application," and, if so, the Commission "shall grant such application"). 47 U.S.C. §§ 308, 309. See also *DBS Notice*, FCC 06-120, para. 21.

³¹ EchoStar Opposition at 4; DIRECTV Opposition at 2, 6; EchoStar Reply to Consolidated Response of Spectrum Five LLC.

³² 25 C.F.R. § 25.114(d)(13)(i).

³³ 25 C.F.R. § 25.114(d)(13)(ii).

parameters.”³⁴ Further, as noted previously, the *Part 100 Report and Order* contemplated reduced spacings.³⁵ Thus, if an applicant can coordinate its proposal with other U.S. DBS operators and secure agreement with other operators already having assignments in the Region 2 Plans or with prior requests for Plan modifications, we believe our rules allow us to consider these applications prior to completing the rulemaking proceeding.

7. Section 25.156(d)(6) of the Commission’s rules provides that a DBS application is entitled to comparative consideration with one or more conflicting applications if they are mutually exclusive and the application was filed by the “cut-off” date specified in a public notice.³⁶ In this case, no cut-off date was ever established and no other applications or petitions for a DBS satellite at 114.5° W.L. were received by the Commission. We acknowledge that the Commission is seeking comment on licensing procedures for both Region 2 Plan and non-Plan DBS satellite applications in a Notice of Proposed Rulemaking.³⁷ However, the need to determine processing procedures for DBS satellite applications does not prevent us from acting on the Spectrum Five Petitions at this time. We have granted applications in the past, absent specific licensing procedures, when, as now, mutual exclusivity is not present among pending applications³⁸ and the public might benefit from expeditious processing and delivery of new or expanded service offerings.³⁹ Indeed, we used such an approach when granting earth station licenses to Digital Broadband Applications Corp (“DBAC”) and Pegasus Development Corporation (“Pegasus”) to use Canadian DBS satellites to provide service in the United States.⁴⁰ As noted above, given the application filing requirements and rules regarding non-interference showings, coupled with our general statutory authority under Sections 308 and 309 of the Communications Act, we can process an application provided that it is complete and we find that grant would serve the public

³⁴ 47 C.F.R. § 25.148(f). Section 25.111(c) provides additional guidance regarding the filing of plan modifications at the ITU. In particular, this rule indicates what U.S. applicants and licensees must provide to the Commission so that it may file plan modifications on the licensee’s/applicant’s behalf. *See* 47 C.F.R. § 25.111(c).

³⁵ *See supra* para. 3.

³⁶ 25 C.F.R. § 25.156(d)(6).

³⁷ Although the Commission is considering expanding the streamlined satellite application processing rules (*e.g.*, first-come/first-served processing) to DBS, it may continue to consider pending applications under the existing Part 25 framework.

³⁸ *See Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945). The Court held in *Ashbacker* “that where two *bona fide* applications are mutually exclusive the grant of one without a hearing to both deprives the loser of the opportunity which Congress chose to give him.” *Ashbacker*, 326 U.S. at 333.

³⁹ *See, e.g.*, PANAMSAT LICENSEE CORP., 14 FCC Rcd 2719 (1998).

⁴⁰ *See* Digital Broadband Applications Corp., Consolidated Application for Authority to Operate U.S. Earth Stations with a U.S.-Licensed Ku-Band FSS Satellite and Canadian-Licensed Nimiq and Nimiq 2 Satellites to Offer Integrated Two-Way Broadband Video and Data Service Throughout the United States (Call Sign E020010), *Order*, 18 FCC Rcd 9455 (2003) (“*DBAC Order*”); Pegasus Development Corporation, Consolidated Applications for Authority to Operate one U.S. Transmit/Receive Fixed Earth Station (Call Sign E010320) and 1,000,000 Receive-Only Earth Stations (Call Sign E020022) with the Canadian-Licensed Nimiq 1 and Nimiq 2 Satellites to Offer Direct Broadcast Satellite Service Throughout the United States, *Order*, 19 FCC Rcd 6080 (2004) (“*Pegasus Order*”). No U.S. applications for satellites at the Canadian locations were pending when the DBAC and Pegasus applications were under consideration. We granted both the DBAC and Pegasus applications, in part, because co-frequency receive-only operations are not mutually exclusive and gateway stations that provide feeder links to/from the same DBS satellite can operate at different frequencies or polarizations.

interest, convenience, and necessity.⁴¹

8. Next, we address the information that non-U.S. licensed DBS satellite operators must provide when they wish to serve the U.S. market. The Commission decided in the *DISCO II* proceeding that entities wishing to serve the United States with a non-U.S. satellite, including DBS satellites, must file the same information as applicants for a U.S. space station license, whether or not that satellite is already licensed by another administration.⁴² Consequently, foreign-licensed DBS operators seeking U.S. market access⁴³ and entities filing earth station applications to access foreign-licensed DBS satellites must file the same information requested under Section 25.114 of the Commission's rules that U.S. DBS applicants must file (including, without limitation, the technical characteristics of the satellite as specified in Sections 25.114(c) and 25.114(d)(1)-(5) and the analyses required under Section 25.114(d)(13)).⁴⁴ Other requirements for requests to operate with non-U.S. licensed space stations, including the effective competitive opportunities analysis, are contained in Section 25.137 of the Commission's rules.⁴⁵ For all requests to serve the U.S. market from foreign-licensed space stations, the Section 25.114(d)(13)(ii) analysis must take into account all U.S.-licensed Region 2 Plan assignments and all pending Region 2 Plan modifications that will be licensed by the United States. In the alternative, no technical showing is necessary under Section 25.114(d)(13)(ii) if the petitioner provides evidence of agreements with all providers of DBS services to the United States that would be affected by the proposed system.

B. Framework for Review

9. In *DISCO II*, the Commission set forth the public interest analysis applicable in evaluating applications to use non-U.S.-licensed space stations to provide satellite service in the United States. This analysis considers the effect on competition in the United States,⁴⁶ eligibility and operating

⁴¹ See 47 C.F.R. § 25.156(a); 47 U.S.C. § 308(a) (stating that “the Commission may grant construction permits and station licenses . . . only upon written application therefore received by it”); § 308(b) (requiring that Section 308(a) applications set forth “such facts as the Commission by regulation *may* prescribe,” but not requiring the Commission to prescribe such regulations) (emphasis added); § 309(a) (stating that “the Commission shall determine . . . whether the public interest, convenience, and necessity will be served by the granting of [a Section 308] application,” and, if so, the Commission “shall grant such application”). 47 U.S.C. §§ 308, 309. We are not granting Spectrum Five a license authorization, rather we grant Spectrum Five U.S. market access rights pursuant to the procedure adopted in *DISCO II* (see Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Service in the United States, *Report and Order*, IB Docket No. 96-111, 12 FCC Rcd 24094 (1997) (“*DISCO II*” or “*DISCO II Order*”). Thus, while we are not taking action directly under Sections 308 and 309, since Spectrum Five will not hold a Commission license, we are applying the procedural framework of Sections 308 and 309, bearing in mind our World Trade Organization (WTO) commitments to treat satellite operators licensed in the Netherlands, such as Spectrum Five, no less favorably than we treat U.S.-licensed satellite operators.

⁴² *DISCO II*, 12 FCC Rcd 24094, 24175 at para. 190 (1997). *DISCO II* specifically said that foreign DBS operators seeking access to the United States must file the same information as U.S. applicants under Section 100.13 of the Commission's rules. Section 100.13 has since been eliminated as DBS applications are now filed in accordance with the general Part 25 satellite rules. See *Part 100 Order*.

⁴³ Typically, foreign satellite operators file requests for U.S. market access in the form of a letter of intent or Petition for Declaratory Ruling or earth station application (if the foreign space station is already in operation).

⁴⁴ See 47 C.F.R. § 25.114. The analyses required under Section 25.114(d)(13) must take into account both the Appendix 30 BSS Plans and the Appendix 30A feeder link Plans. *Id.*

⁴⁵ See 47 C.F.R. § 25.137.

⁴⁶ *DISCO II Order*, 12 FCC Rcd 24094, at 24107-56, paras. 30-145.

requirements,⁴⁷ spectrum availability,⁴⁸ and national security, law enforcement, foreign policy, and trade concerns.⁴⁹ Because the Commission does not issue duplicative U.S. licenses for space stations licensed under the jurisdiction of another administration,⁵⁰ a U.S. earth station application often represents the Commission's first opportunity to evaluate whether the foreign space station complies with the Commission's technical, legal, and financial qualification requirements. The first earth station application seeking to communicate with a particular foreign satellite must therefore include the same detailed information about the space station and its operations that the Commission requires from U.S. space station applicants.⁵¹ As noted above, foreign-licensed DBS operators seeking U.S. market access and entities filing earth station applications to access foreign-licensed DBS satellites must file the same information requested under Section 24.114 that U.S. DBS applicants must file. In the first reconsideration of the *DISCO II Order*, the Commission decided that the operator of a non-U.S. licensed space station could also seek access to the U.S. market through a Petition for Declaratory Ruling.⁵² This is the manner in which Spectrum Five seeks to access the U.S. market, and thus we evaluate the Spectrum Five request under this framework.

1. Competition Considerations

10. In the *DISCO II Order*, the Commission adopted two different frameworks under which it would evaluate the foreign entrant's effect on competition in the U.S. satellite market. First, in cases where the non-U.S. satellite is licensed by a country that is a member of the World Trade Organization ("WTO") and will provide services covered by the U.S. commitments under the WTO Basic Telecom Agreement, the Commission established a presumption that entry will further competition in the United States. The U.S. commitments include FSS, but specifically exclude direct-to-home (DTH) services, DBS, and Digital Audio Radio Service (DARS).⁵³ For such non-covered services, the Commission conducts an Effective Competitive Opportunities ("ECO-Sat") analysis for non-U.S.-licensed space stations. Under this analysis, applicants seeking to access the U.S. market via a foreign satellite must demonstrate that U.S.-licensed space stations have effective competitive opportunities to provide analogous services in the country in which the satellite is licensed and in all countries in which communications with the U.S. earth station will originate or terminate (*i.e.*, the "route" markets).⁵⁴

11. In this case, Spectrum Five is seeking authority to provide DBS via two proposed foreign-licensed satellites, Spectrum 1A and Spectrum 1B. In addition to its desire to serve the United States, Spectrum Five indicates that it will provide service to the Netherlands Antilles and will originate one channel of TV service there.⁵⁵ The proposed satellites will operate under authority from the

⁴⁷ *Id.* at 24159-69, paras. 151-74.

⁴⁸ *Id.* at 24157-59, paras. 146-50.

⁴⁹ *Id.* at 24169-72, paras. 175-82.

⁵⁰ *Id.* at 24174, para. 188.

⁵¹ *See* 47 C.F.R. § 25.137.

⁵² Amendment of the Commission's Regulatory Policies to Allow Non-U.S.-Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, *First Order on Reconsideration*, 15 FCC Rcd 7207 (1999) ("*DISCO II First Reconsideration*").

⁵³ *DISCO II Order*, 12 FCC Rcd 24094, 24104, at para. 25.

⁵⁴ 47 C.F.R. § 25.137(a). A route market is a market in which a satellite transmission originates or terminates. *See DISCO II Order*, 12 FCC Rcd 24094, 24130 at para. 78.

⁵⁵ Spectrum Five Petitions at 1, 16.

Netherlands (including the Netherlands Antilles), which is a WTO-Member country.⁵⁶ We therefore examine whether there are effective competitive opportunities for U.S.-licensed space stations to provide service, analogous to Spectrum Five's proposed service, in the Netherlands and Netherlands Antilles (the "ECO-Sat" analysis).⁵⁷ We examine in particular *de jure* and *de facto* barriers to entry, and whether any such barriers would cause competitive distortions in the United States.⁵⁸

12. Spectrum Five states that there are no *de jure* and no *de facto* barriers to entry "for any entity proposing to use a U.S.-licensed satellite to deliver DBS services to the Netherlands or Netherlands Antilles markets."⁵⁹ Spectrum Five also notes that "[s]everal foreign satellite operators already provide DBS services in the Netherlands."⁶⁰ No parties commented on Spectrum Five's ECO-Sat submission, and there is nothing in the record that contradicts Spectrum Five's statements. Thus, we have no evidence on the record that suggests the existence of market entry barriers to the Netherlands or Netherlands Antilles.⁶¹

13. Accordingly, we find that the Spectrum 1A and 1B satellites' proposed entry into the U.S. market for the purpose of offering DBS services in the 12.2-12.7 GHz band will enhance competition for these services in the U.S. market, including Alaska and Hawaii. If Spectrum Five chooses in the future to provide service from the United States to any other nations within these satellites' footprints, Spectrum Five must notify the Commission so that it can conduct an ECO-Sat test for the additional route market(s).

2. Eligibility Requirements

(i) Legal Qualifications

14. In the *DISCO II Order*, the Commission stated that it would require non-U.S. space

⁵⁶ See http://www.wto.org/english/thewto_e/countries_e/netherlands_e.htm. Spectrum Five provided a summary of an October 22, 2004 agreement with the Netherlands Radio Communications Agency that gives Spectrum Five "exclusive use of the 114.5° W.L. orbital location with respect to" the DBS frequencies. Spectrum Five Petitions at 10-11. Spectrum Five included with its petitions a copy of the ITU filing (identified as BSS-5) that the Netherlands submitted on Spectrum Five's behalf. Subsequently, the Netherlands Radio Communication Agency sent the Commission a letter, noting that the Netherlands authorized Spectrum Five to provide DBS with the BSS-5 satellites and seeking U.S. agreement to modification of the Region 2 BSS plan. See Letter from A. J. van Dijken, Head Frequency Planning and Co-ordination Section Radiocommunications Agency Netherlands, to Kevin J. Martin, Chairman, Federal Communications Commission, March 18, 2005. We find that, cumulatively, this documentation satisfies the information requirements of Section 25.137(c). See 47 C.F.R. § 25.137(c) (requiring non-U.S.-licensed geostationary orbit (GSO)-like satellite systems seeking market access to demonstrate that the satellite is in orbit and operating, or that the system has a license from another administration, or that the system has been submitted for coordination to the ITU).

⁵⁷ See 47 C.F.R. § 25.137(a). The Commission said in *DISCO II* that when evaluating requests to provide DBS, DTH, and DARS from a non-U.S. satellite, it would apply the ECO-Sat test to the non-U.S. satellite's home market and all routes that it proposes to serve. See *DISCO II*, 12 FCC Rcd 24094, 24136 at para. 98.

⁵⁸ *Id.* at 24137, para. 99.

⁵⁹ Spectrum Five Petitions at 16.

⁶⁰ *Id.*

⁶¹ See also, Promoting Market Access for the Provision of Satellite Services, Background Paper for the U.S. Trade Representative, prepared by the Satellite Industry Association ("SIA"), July 27, 2005. In this paper, SIA identifies countries that it believes have WTO offers that should be amended to reflect more open trade policies; the Netherlands is not among those countries that SIA identifies.

station operators to meet the same technical, legal, and financial qualifications that U.S.-licensed space station operators must meet to obtain a license.⁶² We find nothing in Spectrum Five's petitions to suggest that it is not legally qualified to provide service to the United States using the requested frequencies on the Spectrum 1A and Spectrum 1B satellites.

(ii) Technical Qualifications

15. *Technical Description and Waiver Request.* Spectrum Five proposes to position its two satellites, Spectrum 1A and Spectrum 1B, at the 114.5° W.L. orbital location, and maintain them in identical orbits with $\pm 0.05^\circ$ longitudinal stationkeeping.⁶³ Spectrum Five states that Spectrum 1A will make use of 16 transponder center frequencies (the even-numbered transponder center frequencies described in Appendices 30 and 30A of the ITU Radio Regulations for the Region 2 Plans) with a transponder bandwidth of 24 megahertz.⁶⁴ The downlink is right-hand circularly polarized (RHCP) and the uplink is left-hand circularly polarized (LHCP), except for beams 51 and 52 (serving the Netherlands Antilles), which are polarized LHCP in the downlink and RHCP in the uplink. Spectrum Five states that Spectrum 1A also may provide additional spot beams operating on the opposite polarization set in order to provide additional capacity in specific spot beams, such as those serving the northeast megalopolis.⁶⁵ Spectrum Five states that Spectrum 1B will make use of 16 transponder center frequencies (the odd-numbered transponder center frequencies described in Appendices 30 and 30A for the Region 2 Plans), with a transponder bandwidth of 24 megahertz. The downlink is polarized LHCP and the uplink is polarized RHCP, including the Netherlands Antilles. The downlink polarizations for Spectrum 1A and Spectrum 1B are opposite those normally used in DBS systems serving the U.S. Spectrum Five states that it will operate its telecommand link at 17.305 GHz, and its telemetry links at 12.201 GHz and 12.205 GHz, with a beacon at 12.203 GHz.⁶⁶ Spectrum Five further states that it will conduct its on-orbit TT&C operations from an earth station located in the Netherlands Antilles.⁶⁷

16. In its petitions, Spectrum Five requests a partial waiver of the requirement in Section 25.114(d)(3) of the Commission's rules⁶⁸ to supply an antenna gain contour diagram in .gxt format⁶⁹ for each transmit and receive antenna beam. Spectrum Five states that since its system uses only circular spot beams, it can provide the characteristics of those beams required to assess the performance of the system and its interference potential much more succinctly and much more usefully in the form of a text file. DIRECTV objects to Spectrum Five's request, stating that the information submitted is not sufficient to allow other interested parties, such as DIRECTV, to perform a complete analysis of the potential interference from the proposed satellite.⁷⁰ DIRECTV states that .gxt files are the common format used

⁶² *DISCO II*, 12 FCC Rcd 24094, 24161-63, at paras. 154-59.

⁶³ Spectrum Five Petitions, Technical Appendix at 11.

⁶⁴ Spectrum Five Petitions, Technical Appendix at 1.

⁶⁵ Spectrum Five Petitions, Technical Appendix at 1.

⁶⁶ Spectrum Five Petitions, Technical Appendix at 16.

⁶⁷ Spectrum Five Petitions, Technical Appendix at 2.

⁶⁸ 47 C.F.R. § 25.114(d)(3).

⁶⁹ The .gxt format is the format produced and used by the ITU's Graphical Interference Management System (GIMS) software. See <http://www.itu.int/ITU-R/software/space/gims/index.html> (last visited November 7, 2005).

⁷⁰ DIRECTV Opposition at 5. DIRECTV also asserts that providing the .gxt files would not be burdensome, as demonstrated by the fact that it submitted .gxt files to the Commission for its three spot-beam satellites, DIRECTV 4S, DIRECTV 7S, and DIRECTV 9S. DIRECTV Opposition at 5.

with the ITU's GIMS and MSPACE software to analyze interference scenarios.⁷¹

17. In its consolidated response, Spectrum Five points out that it submitted a Microsoft Access (.mdb) file in the exact format required by the ITU for proposed Plan modifications.⁷² This file is located in the Commission's IBFS database for Spectrum Five's two applications, and is called SF_BSS5_SPOT.mdb. Although this file does contain descriptions of Spectrum Five's spot beams, it is in a format that is not readable by the ITU's GIMS software. However, we note that the ITU's GIMS database now includes Spectrum Five's 53 spot beams under the SF_BSS5 satellite name.⁷³ This permits all parties with access to the GIMS software to use this tool to examine Spectrum Five's spot beams. The information provided by Spectrum Five in its application is therefore sufficient for us to determine whether the system meets the Commission's technical requirements.⁷⁴ We therefore conditionally grant Spectrum Five's request for a partial waiver of the requirement to supply an antenna gain contour diagram in .gxt format for each transmit and receive antenna beam.

18. However, we recognize that Spectrum Five will have to conduct coordination negotiations with the affected DBS operators at the 110° W.L. and 119° W.L. orbital locations, and that the characteristics of its downlink antenna beams may change in order to achieve agreement with those operators. Therefore, we condition grant of Spectrum Five's Petitions on its supplying, within 30 days of completing critical design review, the final characteristics of its beams to the Commission in the form of .gxt files for each beam, or in the alternative, as a GIMS database file containing the characteristics of all of its beams.

19. Spectrum Five also requests a partial waiver of the requirement in Section 6 of the Commission's Form 312, Schedule S to supply a service area diagram in Adobe Acrobat (pdf) format for each service area.⁷⁵ Spectrum Five requests the waiver "to the extent that Section 6 of Schedule S could be construed to require separate and distinct service area diagram files in .pdf format for each of its 53

⁷¹ *Id.* GIMS is a software package that allows the capture and modification of graphical data, such as antenna gain contour diagrams and service area diagrams, relating to the electronic notification of satellite networks. MSPACE is a software package designed to determine the coordination requirements for space networks in Appendices 30, 30A and 30B of the ITU Radio Regulations. For additional information regarding MSPACE, see http://www.itu.int/ITU-R/space/plans/MSPACEg_files/SPS_v5_readme.html. For additional information regarding MSPACE, see http://www.itu.int/ITU-R/space/plans/MSPACEg_files/SPS_v5_readme.html.

⁷² Spectrum Five Consolidated Reply, note 37.

⁷³ The ITU GIMS reference database (REFDB) is published by the ITU Radiocommunication Bureau twice a year on the SRS CD-ROM. The Radiocommunication Bureau publishes incremental updates every two weeks on the IFIC CD-ROM.

⁷⁴ Our conditional grant of Spectrum Five's request for a partial waiver of our rules to allow it to file technical information in a different format is warranted in this instance because in these limited circumstances we hold that sufficient information was on file for the public to comment on the application. Further, we note that Spectrum Five appropriately sought a waiver of our rules and did not file inconsistent data or confusing data. *Compare*, Letter to David K. Moskowitz, Senior Vice President and General Counsel, EchoStar Satellite corporation, from Thomas S. Tycz, Chief, Satellite Division, International Bureau, Federal Communications Commission, 19 FCC Rcd 2216 (Int'l. Bur., Sat. Div., 2004), affirmed on reconsideration, 19 FCC Rcd 24953 (2004) (application dismissed where the applicant failed to provide technical information required under the rules and the application contained inconsistent frequency assignment requests which made it impossible to determine with certainty which frequencies were being sought).

⁷⁵ Spectrum Five Petitions, Addenda to Schedule S and Requests for Partial Waivers at 2.

beams.”⁷⁶ No parties objected to this waiver request.

20. No waiver is necessary because Schedule S allows the service area information to be provided in the form of a .gxt file, a description, or a .pdf file. Spectrum Five has provided an adequate description of its service areas in Schedule S and in its Technical Appendix. However, for the same reasons we discussed above regarding Spectrum Five’s antenna beam gain contour diagrams, we condition grant of Spectrum Five’s Petitions on its supplying updated service area information for each of its antenna beams once its final spacecraft design and operating characteristics have been determined.

21. In addition, Spectrum Five requests a partial waiver of the requirement in the Commission’s Form 312, Schedule S, Section 10, to supply a complete listing of all transponders supported by its space stations.⁷⁷ Spectrum Five states that because of the configuration of the satellite, a complete listing would require Spectrum Five to define 198 transponders. Spectrum Five states that defining all 198 transponders would be burdensome and unnecessary, because the 53 beams can be divided into four groups, and the beams in each group have transponders that are essentially identical. Therefore, Spectrum Five has defined 16 representative spot beam transponders (designated T-1A through T-4D).⁷⁸

22. Upon examination of the Schedule S and the Technical Appendix to Spectrum Five’s application, we find that there is a sufficiently complete description of the transponder characteristics of the Spectrum 1A and Spectrum 1B satellites to enable the Commission to determine whether or not Spectrum Five’s proposed space stations meet the Commission’s technical requirements. We therefore grant Spectrum Five’s request for a partial waiver of the requirement to supply the information listed in Section 10 of Schedule S.

23. *Interference Concerns.* In its petitions, Spectrum Five presents an interference analysis of its own system with respect to the ITU Region 2 BSS Plan assignments and proposed modifications to the Region 2 Plans.⁷⁹ Spectrum Five used the ITU Radiocommunication Bureau’s MSPACE software to conduct its analysis.⁸⁰ The MSPACE software calculates a metric called overall equivalent protection margin (“OEPM”).⁸¹ The OEPMs for all the channels and test points of all the beams of a particular satellite network defines the “reference situation” for that network. When a plan modification request is submitted to the ITU, the ITU uses the MSPACE software to calculate the effect of the proposed new network on the OEPMs of all the networks already in the plan or pending. If the effect of the proposed network is to reduce the OEPM of any channel and test point of any network in the plan or pending by 0.25 dB or more, that network is considered to be “affected” and the new network can only be added to the plan with the agreement of all the administrations whose networks are affected.

24. Spectrum Five’s analysis showed that many U.S. Region 2 BSS Plan entries and proposed modifications to the Region 2 Plans at the 110° W.L. and 119° W.L. nominal orbital locations would be affected by substantially more than the 0.25 dB change in OEPM criterion used by the ITU to

⁷⁶ *Id.* at 3.

⁷⁷ Spectrum Five Petitions, Technical Appendix at 4.

⁷⁸ *Id.*

⁷⁹ Spectrum Five Petitions, Exhibit 1 to Technical Annex.

⁸⁰ For additional information regarding MSPACE, see http://www.itu.int/ITU-R/space/plans/MSPACEg_files/SPS_v5_readme.html.

⁸¹ *See supra* n. 16.

identify networks as being affected by a proposed modification to the Region 2 Plans. In Table 2 of Exhibit 1 to the Technical Appendix in Spectrum Five's petition, Spectrum Five identifies eight U.S. Region 2 Plan entries that would experience a decrease in OEPM of more than 0.25 dB, with decreases in OEPM ranging from 0.5 dB to 6.4 dB. Spectrum Five also identifies 14 proposed U.S. modifications to the Region 2 Plans that would suffer OEPM decreases of more than 0.25 dB, with decreases ranging from 3.5 dB to 16.7 dB. These levels trigger the ITU agreement-seeking process between the Netherlands, through which Spectrum Five filed its proposed Region 2 Plan modifications, and the United States.

25. DIRECTV and EchoStar raise a number of objections to Spectrum Five's proposal. In its opposition, DIRECTV asserts that the Spectrum Five Petition "is subject to dismissal for failure to comply with Section 25.114(d)(13)(i) of the Commission's rules," which DIRECTV says "requires applicants seeking to use assets not specified in the BSS Plan to provide a sufficient technical showing that the proposed system could operate satisfactorily if all assignments in the BSS Plan were implemented."⁸² DIRECTV states that the interference analyses presented by Spectrum Five in Exhibit 1 to its Technical Appendix show that 22 beams of the U.S. DBS systems at 110° W.L. and 119° W.L. would experience OEPM degradations of more than 10 dB, and many more beams would experience OEPM degradations of between 5 and 10 dB.⁸³ DIRECTV states that there is no coordination agreement between the existing U.S. operators and Spectrum Five, and therefore Spectrum Five's petitions are not ripe and should be denied.⁸⁴ In its opposition, EchoStar states that it is considering a new multi-feed antenna that will make coordination with short-spaced DBS satellites more difficult.⁸⁵ EchoStar also asserts serious concerns about whether Spectrum Five's proposed system can be coordinated internationally.⁸⁶ In support of this assertion, EchoStar provides a response raising several technical concerns that it believes Spectrum Five has treated over-optimistically. Among these concerns are (i) real-world DBS subscriber antenna performance characteristics, (ii) the wide range of EIRP levels of both existing DBS systems and Spectrum Five's proposed system over their respective service areas, (iii) the need to maximize the capacity of DBS satellite transponders through efficient modulation and coding techniques, (iv) the actual orbital locations of DBS satellites, including offsets from the nominal locations and stationkeeping tolerances, and the resulting topocentric angles between the existing and proposed satellites, and (v) the evolving nature of the DBS industry, which requires flexibility for innovation to meet new requirements such as providing local-into-local and high-definition service.⁸⁷

26. In its consolidated response, Spectrum Five states that DIRECTV does not provide any specific technical information showing that Spectrum Five's system would result in actual harmful interference to DIRECTV's operations.⁸⁸ Spectrum Five rebuts DIRECTV's concerns about the difficulty of coordinating its system with DIRECTV's, pointing out that DIRECTV relied exclusively on the MSPACE analysis of Spectrum Five's system.⁸⁹ Spectrum Five provides a Technical Appendix in its consolidated response in which it claims that (i) DIRECTV's opposition was based on misleading

⁸² DIRECTV Opposition at 1-2.

⁸³ DIRECTV Opposition at 3.

⁸⁴ DIRECTV Opposition at 4.

⁸⁵ EchoStar Opposition at 3. We note that to date, EchoStar has not provided the Commission a detailed technical description of its new multi-feed antenna.

⁸⁶ EchoStar Reply Comments at 3.

⁸⁷ EchoStar Reply Comments, Attachment A at 1.

⁸⁸ Spectrum Five Consolidated Response at 3.

⁸⁹ *Id.*

assumptions and proposed interference thresholds; (ii) the use of real-world parameters dramatically lowers the calculated interference from Spectrum Five's system into DIRECTV's; (iii) the large negative OEPM margins for DIRECTV's USABSS-18 system exist even without considering interference from Spectrum Five's system; and (iv) several interference mitigation techniques exist that Spectrum Five could employ to facilitate coordination with the existing operators.⁹⁰

27. Spectrum Five points out that EchoStar does not assert that Spectrum Five's system will interfere with EchoStar's DBS system.⁹¹ Spectrum Five states that the Commission has licensed U.S. DBS systems subject to completion of the international agreement-seeking process that is required to modify the Region 2 Plans.⁹² Spectrum Five also asserts that EchoStar's use of its new multi-feed antenna would be protected under the Region 2 Plan modification process only to the extent that the Region 2 Plan had been modified to incorporate the characteristics of this new antenna, but that this has not yet occurred.⁹³

28. DIRECTV argues that the Spectrum Five Petitions do not comply with Commission rule requirements and should be dismissed.⁹⁴ Specifically, DIRECTV states that Section 25.114(d)(13)(i) requires that an applicant whose DBS system parameters differ from the Region 2 Plan must provide a technical showing sufficient to demonstrate that "the proposed system could operate satisfactorily if all assignments in the [Region 2 Plan] were implemented," and thus, Spectrum Five has the burden to demonstrate that its system *as proposed* could operate harmoniously with DBS systems already in the Region 2 Plan.⁹⁵ DIRECTV performed a C/I analysis based on data supplied by Spectrum Five in Tables 7 and 8 of the Technical Appendix to its petition, and states that its operations at 110° W.L. and 119° W.L. would experience substantial disruptions from Spectrum Five's proposed operations at 114.5° W.L.⁹⁶ DIRECTV points out that these C/I levels are significantly below the 21 dB level that Spectrum Five mentions in Exhibit 1 to the Technical Appendix to its petition as being the interference protection criterion used in the WRC-2000 modification to the Region 1 and 3 Plans.⁹⁷

29. Spectrum Five has shown a willingness to modify the technical characteristics of its system to achieve a coordination agreement with the existing DBS operators. The performance objectives Spectrum Five provides in its Technical Appendix include a 15.2 dB downlink C/I and a 99.8% availability target (*i.e.* 0.2% unavailability, or about 1052 minutes a year).⁹⁸ This means that Spectrum Five is willing to accept more interference than DIRECTV, which targets a 21 dB net C/I and at least 99.9% availability (*i.e.* outages lasting no more than 526 minutes a year). Spectrum Five also indicated

⁹⁰ Spectrum Five Consolidated Response at 9 and Technical Appendix.

⁹¹ *Id.*

⁹² Spectrum Five Consolidated Response at 5-6.

⁹³ Spectrum Five Consolidated Response at 8.

⁹⁴ DIRECTV Reply Comments at 2-3.

⁹⁵ *Id.*

⁹⁶ According to DIRECTV's analysis, the C/I values would be below 15 dB in nine out of ten cities for DIRECTV 6 operating at 110° W.L., and in six out of ten cities for DIRECTV 7S operating at 119° W.L. (DIRECTV Reply Comments at 5.) DIRECTV 6 has recently been replaced by DIRECTV 5 at the 110° W.L. orbital location. The technical characteristics of DIRECTV 5 are very similar to those of DIRECTV 6.

⁹⁷ 21 dB is also the aggregate protection criterion advocated by DIRECTV in its Petition for Rulemaking. See DIRECTV Petition for Rulemaking at 17.

⁹⁸ Spectrum Five Petitions, Technical Appendix at 7 (Table 4).

that it could modify its spot beam power levels, increase its antenna size, and use rate 1/3 coding to meet coordination objectives.⁹⁹ In addition, Spectrum Five has stated that “decreasing [its] power level while increasing the size of [its] customer dishes was among the interference mitigation techniques available to parties during coordination.”¹⁰⁰ Spectrum Five believes that it can successfully coordinate its system with any affected networks operating pursuant to the current Region 2 BSS Plans.¹⁰¹

30. Given Spectrum Five’s stated willingness to tolerate additional interference and use larger-than-average DBS receive dishes, we are satisfied that granting the Spectrum Five Petitions on the condition that it coordinate with EchoStar and DIRECTV will protect those existing operations.¹⁰² Specifically, Spectrum 5 shall not operate the feeder links and service links originating or terminating in the United States on its Spectrum 1A and Spectrum 1B satellites in a manner that exceeds the limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations¹⁰³ that trigger the agreement-seeking process under No. 4.2 of Appendices 30 and 30A at any location within the service areas of any affected operators¹⁰⁴ that lie within the territory of the United States, until Spectrum Five has obtained the agreement of those operators. We also require Spectrum Five to submit evidence of these agreements to the Commission. Spectrum Five’s satellite operations are not guaranteed protection from interference from other systems operating in accordance with the ITU Radio Regulations unless and until the Region 2 BSS Plan and its associated feeder link Plan are modified to include the technical parameters of Spectrum 1A and Spectrum 1B. EchoStar’s and DIRECTV’s concerns regarding the impact of Spectrum 1A and Spectrum 1B on their future operations can be addressed in the coordination negotiations.¹⁰⁵

31. We reject DIRECTV’s argument that we cannot grant market access prior to completion

⁹⁹ Spectrum Five Consolidated Reply, Technical Appendix at 4.

¹⁰⁰ Spectrum Five June 23, 2005 *Ex Parte Presentation* at 1.

¹⁰¹ Spectrum Five PDR, Exhibit 1 to Technical Annex at 6.

¹⁰² *But see* EchoStar Satellite LLC, *Order*, DA 05-1955, rel. July 6, 2005 (denying EchoStar’s application for a Ku-band FSS satellite at the 101° W.L. orbital location pursuant to Section 25.158 of the Commission’s rules, because it would cause harmful interference to Mobile Satellite Ventures Subsidiary LLC’s previously licensed operations at the same location). (“*EchoStar 101 Denial Order*”). The Commission’s two-degree spacing policy for FSS has been in place for over 20 years. *See* Licensing of Space Stations in the Domestic Fixed-Satellite Service and Related Revisions of Part 25 of the Rules and Regulations, *Report and Order*, FCC 83-184, 54 Rad. Reg. 2d 577 (rel. Aug. 16, 1983); summary printed in 48 F.R. 40233 (Sept. 6, 1983). To implement this policy, the Commission adopted requirements for providing interference analyses as well as EIRP density and PFD limits to limit harmful interference into adjacent satellites. *See* 47 C.F.R. §§ 25.114, 25.134, 25.137, 25.138. *See also*, Interference Analysis Public Notices, DA 04-1708 (rel. June 16, 2004); SPB-195, 18 FCC Rcd 25099 (2003). Similarly, the Commission adopted antenna diameter and performance requirements, and power restrictions to ensure that earth stations communicating with satellites at two-degree orbital separations would not cause unacceptable interference to adjacent satellite systems using the same frequency bands. *See* 47 C.F.R. §§ 25.134, 25.209, 25.211, and 25.212. *See* Declaratory Order, 2 FCC Rcd 2149 (Com. Car. Bur., 1987), cited in 47 C.F.R. § 25.134.) The two-degree interference rule provides well-settled criteria for evaluating the potential for interference into adjacent operators, whereas similar technical performance rules do not exist for DBS. Thus, our grant of the Spectrum Five Petitions would not be the same if they were for GSO-FSS satellites that sought less than two-degree spacing and merely alleged sharing was possible. *See EchoStar 101 Denial Order*.

¹⁰³ In particular, Spectrum Five shall not exceed a 0.25 dB change in overall equivalent protection margin with respect to the reference situation that existed for DBS satellites serving the U.S.

¹⁰⁴ In this context, an “affected” operator is one that is deemed affected in Appendices 30 and 30A of the ITU Radio Regulations.

¹⁰⁵ DIRECTV Opposition at 1, 5; EchoStar Opposition at 1-3.

of coordination with U.S. operators.¹⁰⁶ Rather, as Spectrum Five points out,¹⁰⁷ the Commission has noted the significance of the coordination process for foreign providers of DBS:

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 will identify the U.S. DBS systems that are affected by the proposed Plan modification of another Administration.¹⁰⁸ 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.*¹⁰⁹

This neither forecloses the possibility of granting a foreign entity U.S. market access on the condition of successful coordination with U.S. operators, nor does it require coordination as a prerequisite to grant of market access. Therefore, we believe grant of the Spectrum Five Petitions, subject to the conditions described herein, is warranted.¹¹⁰

(iii) Financial Qualifications

32. In the *First Space Station Reform Order*, the Commission eliminated the financial requirements then in place for space station applicants and replaced them with a bond requirement.¹¹¹ In accordance with this requirement, any entity awarded a license for a geostationary satellite must execute a payment bond, payable to the U.S. Treasury, within 30 days of the date of the license grant.¹¹² This requirement is intended to ensure that licensees are financially able and committed to implementing their systems in a timely manner. The bond is payable upon failure to meet any of the implementation

¹⁰⁶ DIRECTV Reply at 6-7. DIRECTV says that there is no precedent “to indicate that the Commission contemplated granting market access to non-U.S. systems before the ‘adequate protection’ provided by coordination with U.S. systems had been successfully completed.” DIRECTV Reply at 7.

¹⁰⁷ Spectrum Five Consolidated Reply at 5-6.

¹⁰⁸ Affected DBS systems will be determined on the basis of the limits contained in Annex 1 to Appendix 30.

¹⁰⁹ *Part 100 Order*, 17 FCC Rcd 11331, 11391-92 at para. 130 (emphasis added, citations omitted).

¹¹⁰ We observe that Spectrum Five’s citation to the International Bureau’s *Televisa International* decision in support of its argument that we grant it market access pending coordination, is inapposite. Spectrum Five Consolidated Reply at 6. *See also* Televisa International, LLC, *Order and Authorization*, 13 FCC Rcd 10074 (1997) (“*Televisa International*”). In *Televisa International*, we granted a Mexican FSS satellite access to the U.S. to provide DTH services, but because the satellite operator did not provide evidence of coordination with nearby satellite operators, we authorized Televisa’s receive dishes on an unprotected, non-interference basis. *Televisa International*, 13 FCC Rcd at 10074, 10078, paras. 1, 12. However, FSS is regulated under our two-degree spacing policies (*see n. 102, supra*), and DTH service is the subject of a bilateral agreement between the United States and Mexico regarding provision of satellite services in both nations. *Televisa International*, 13 FCC Rcd at 10074-75, para. 2. In contrast, we have no spacing rules with regard to the provision of DBS service and the United States has no agreements with the Netherlands or Netherlands Antilles regarding provision of DBS.

¹¹¹ *See* Amendment of the Commission’s Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 10760, 10826, at para. 170 (2003) (“*First Space Station Reform Order*”).

¹¹² *See* 47 C.F.R. § 25.165.

milestones included in every license, where the licensee has not provided adequate justification for extending the milestone. Licensees may reduce the amount of the bond upon meeting each milestone. Once the licensee meets the last milestone, that is, it launches the satellite, it no longer has any bond obligation. This requirement applies to both U.S.-licensed space stations and non-U.S.-licensed space stations that seek to serve the U.S. market.¹¹³

33. The Commission excepted DBS and DARS licenses from the bond requirement because at the time the bond requirement was adopted, DBS and DARS licenses were issued pursuant to another licensing procedure, *i.e.*, competitive bidding.¹¹⁴ Thus, we cannot impose the bond requirement, at this time, on DBS licensees.¹¹⁵ However, we note that in the *DBS Notice*, the Commission seeks comment on whether to expand the Space Station Licensing Reform licensing framework, including the bond requirement of Sections 25.137(d)(4) and 25.165, to DBS.¹¹⁶ If the Commission adopts rules requiring DBS licensees to post a bond, we will modify Spectrum Five's market access grant accordingly.

3. Spectrum Availability

34. In the *DISCO II Order*, the Commission determined that, given the scarcity of geostationary-satellite orbit locations and spectrum resources, it would consider spectrum availability as a factor in determining whether to allow a foreign satellite to serve the United States.¹¹⁷ Specifically, the Commission stated that when grant of access would create interference with U.S.-licensed systems, the Commission may impose technical constraints on the foreign satellite's operations in the United States or, when the interference cannot be remedied, deny access.¹¹⁸

35. The Spectrum 1A and Spectrum 1B satellites will provide service to the United States from the 114.5° W.L. orbital location in the DBS band of 12.2-12.7 GHz. As we have discussed, EchoStar and DIRECTV each have DBS satellites less than nine degrees away from this location, and Spectrum Five has not supplied an interference analysis demonstrating that the Spectrum 1A and Spectrum 1B satellites, as described in its Petitions, will be compatible with those existing operations. Therefore, Spectrum Five may not commence operations in the United States if it affects DIRECTV's and EchoStar's respective operations at both the 110° and 119° W.L. orbital locations, until it has coordinated with EchoStar and DIRECTV.¹¹⁹ In addition, as in all other orders permitting non-U.S. satellites to serve

¹¹³ *First Space Station Reform Order*, 18 FCC Rcd 10760, 10875 at para. 309.

¹¹⁴ *First Space Station Reform Order*, 18 FCC Rcd 10760, 10764-65 at n. 4 and Amendment of the Commission's Space Station Licensing Rules and Policies, *Notice of Proposed Rulemaking*, IB Docket No. 02-34, 17 FCC Rcd 3847, 3859 at n.4 (2002) ("*Space Station Reform NPRM or Notice*"). As noted above, given the recent *Northpoint* ruling by the U.S. Court of Appeals for the D.C. Circuit, DBS applications are currently not eligible for auction. *See supra* para. 6.

¹¹⁵ The previous financial qualification requirements (which included submission of financial statements) have been eliminated entirely by *First Space Station Reform Order* and therefore we cannot impose them on DBS licensees, or any satellite licensee. *See supra* n. 111.

¹¹⁶ *See* 47 C.F.R. §§ 25.165 (establishing the bond requirement for satellite licensees) and 25.137(d)(4) (making the bond requirement apply both to earth station applicants seeking access to foreign satellites and to non-U.S.-licensed satellite operators seeking access to the United States market). *See also DBS Notice*, FCC 06-120, para. 26.

¹¹⁷ *DISCO II Order*, 12 FCC Rcd 24094, 24159 at para. 150.

¹¹⁸ *Id.*

¹¹⁹ As discussed below, we impose milestones on Spectrum Five in connection with this grant. *See infra* paras. 43-44. We note that coordination difficulties do not justify extension of milestone requirements. *See* LORAL (Continued...)

the United States, we require all communications between earth stations in the United States and Spectrum 1A and Spectrum 1B in the BSS band to comply with all satellite coordinations reached by the Netherlands and other administrations.

4. Other DISCO II Requirements

36. As described above, in accordance with the *DISCO II Order*, national security, law enforcement, foreign policy, and trade concerns are included in the public interest analysis.¹²⁰ SES Americom, Inc. (“SES Americom”) points out that it has ITU date priority over Spectrum Five to employ BSS frequencies at the 114.5° W.L. orbital location via two filings submitted by the United Kingdom (USAT-S2 and USAT-S2 MOD-A) on behalf of SES Americom’s subsidiary SES Satellites (Gibraltar) Limited.¹²¹ SES Americom asks that the Commission condition any Spectrum Five grant such that Spectrum Five (a) is not entitled to interference protection from networks operating pursuant to prior ITU filings and (b) must coordinate with affected systems of other administrations that have ITU date priority.¹²² Spectrum Five responds that these conditions are unnecessary because the “FCC does not condition or delay market entry pending coordination between or among foreign administrations.”¹²³ Spectrum Five does state that it “will comply with all ITU requirements and obligations under the BSS Region 2 plan.”¹²⁴

37. Spectrum Five may access the U.S. market subject to the provisions of Article 4.2 of Appendices 30 and 30A of the International Radio Regulations. In addition, Spectrum Five may continue to access the U.S. market, even after launch of a satellite consistent with an entry in the ITU plan or pursuant to an earlier filed modification, upon a showing of coordination with such satellite.¹²⁵ Absent coordination, continued operation is still possible within the confines of Appendices 30 and 30A, provided that no other authorized operators are affected.¹²⁶ We also condition Spectrum Five’s authority to serve the U.S. on its compliance with applicable current and future operational requirements as a result of coordination agreements reached with other satellite systems.¹²⁷

38. In addition, until it has successfully coordinated with affected operators, Spectrum Five must inform its customers that its service is subject to coordination agreements with other operators, both foreign and domestic, and that Spectrum Five may be required to discontinue or alter service (*e.g.*, by replacement of subscriber antennas). We have similarly conditioned other market access grants when a

(...continued from previous page)

SPACECOM CORPORATION (Debtor-in-Possession), Application for Extension of Milestone Dates, *Memorandum Opinion and Order*, DA 05-1962 (rel. July 7, 2005).

¹²⁰ *DISCO II Order*, 12 FCC Rcd 24094, 24170-72 at paras. 178-82.

¹²¹ SES Americom comments at 1-2.

¹²² *Id.* at 3.

¹²³ Spectrum Five Consolidated Reply at 7.

¹²⁴ *Id.* at 8.

¹²⁵ *First Space Station Reform Order*, 18 FCC Rcd 10760, 10870-71 at para. 296.

¹²⁶ *See id.* See also note 16.

¹²⁷ *See* SES Americom comments at 1-2.

higher priority filing existed at the ITU.¹²⁸

C. General DBS Requirements

39. Spectrum Five will be subject to the same service rules and obligations as existing DBS licensees. This includes the geographic service area requirements under Section 25.148(c), the public service obligations detailed in Section 25.701, and the emergency alert system rules in 47 C.F.R. Part 11.¹²⁹ These rules apply to DBS, regardless of whether a licensee's satellites are part of the original Region 2 Plans, because the rules apply to all entities licensed to operate DBS satellites serving the United States in the 12.2-12.7 GHz DBS frequency band.¹³⁰ In addition, DBS licensees, including licensees of reduced spacing DBS satellites, that offer television broadcast channels to subscribers pursuant to the statutory copyright license must comply with all applicable statutory requirements and Commission rules related to such carriage.¹³¹ Therefore, to the extent that Spectrum Five falls in this category, it must comply with such rules and requirements. Further, to the extent applicable, Spectrum Five will be subject to any rules and policies that result from the *DBS Notice*.

D. Due Diligence

40. Section 25.148(b) of the Commission's rules establishes a milestone schedule for DBS authorization holders in order to ensure that entities exercise due diligence in constructing their systems.¹³² According to this schedule, authorization holders must complete contracting for all system satellites within one year of grant; complete construction of the first satellite in the system within four years of grant; and all satellites in the system must be in operation within six years of grant.¹³³ We require that Spectrum Five adhere to this milestone schedule. We also require that Spectrum Five complete its critical design review (CDR) two years after this grant. The Commission has defined critical design review as "the stage in the spacecraft implementation process at which the design and development phase ends and the manufacturing phase starts."¹³⁴ Although the Commission has not prescribed a particular method for demonstrating that the CDR milestone has been met, evidence of compliance may include:

- (1) evidence of a large payment of money, required by most construction contracts at the

¹²⁸ See, e.g., Loral Spacecom Corporation, Petition for Declaratory Ruling to Add Telstar 13 to the Permitted Space Station List, *Order*, 18 FCC Rcd 16374 (DA 03-2624) (2003).

¹²⁹ See 47 C.F.R. §§ 25.148(c), 25.701. Spectrum Five indicated that it would serve Alaska and Hawaii pursuant to Section 25.148(c). See Spectrum Five Petitions at 10. In 2005, the Commission adopted revised emergency alert system ("EAS") rules that now extend to DBS. See Review of the Emergency Alert System, EB Docket No. 04-296, *First Report and Order and Further Notice of Proposed Rulemaking*, FCC 05-191 (rel. Nov. 10, 2005) and 47 C.F.R. Part 11.

¹³⁰ See, e.g., *DBAC Order*, 18 FCC Rcd 9455, 9469-70 at para. 39; *Pegasus Order*, 19 FCC Rcd 6080, 6092 at para. 28.

¹³¹ See 17 U.S.C. §§ 119 & 122. See also 47 U.S.C. §§ 338 & 339; 47 C.F.R. § 76.66.

¹³² See 47 C.F.R. § 25.148(b).

¹³³ *Id.* By contrast, Section 25.164 of the Commission's rules establishes a milestone schedule for GSO satellite system licensees, other than DBS and DARS satellite systems. Under this milestone schedule, one year after grant, the grantee must enter into a binding, non-contingent construction contract; at two years, complete critical design review; at three years begin construction of the first satellite; at five years, launch and operate the satellite. 47 C.F.R. § 25.164.

¹³⁴ *First Space Station Reform Order*, 18 FCC Rcd 10760, 10833 at para. 191.

time of the spacecraft CDR; (2) affidavits from independent manufacturers; and (3) evidence that the licensee has ordered all the long lead items needed to begin physical construction of the spacecraft.¹³⁵

41. In addition to the milestones it must meet, Spectrum Five must also file annual progress reports that illustrate the steps it has taken toward meeting its milestones. Progress reports will be due every June 30, with the first report due June 30, 2007, until the Spectrum Five system has been launched and is operating. Submission of annual reports is consistent with the reporting requirements of other fixed satellite service operators.¹³⁶ We require the submission of these reports in order to ensure that Spectrum Five is taking all necessary action to meet its milestones.

IV. CONCLUSION

42. Based on the foregoing, we conclude that Spectrum Five's request for access to the United States market via the Spectrum 1A and Spectrum 1B satellites is consistent with the Commission's rules and policies regarding access to the United States by non-U.S.-licensed satellites. We therefore grant Spectrum Five's petitions, subject to the conditions set forth in this Order, finding such grant to be in the public interest.

V. ORDERING CLAUSES

43. Accordingly, IT IS ORDERED that, pursuant to Sections 303(r), 308, and 309 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 303(r), 308, and 309, and Sections 0.261 and 25.137 of the Commission's rules, 47 C.F.R. §§ 0.261 and 25.137 (a), Spectrum Five, LLC's Petitions for Declaratory Ruling to Serve the U.S. Market Using BSS Spectrum from the 114.5° W.L. Orbital Location, File Nos. SAT-LOI-20050312-00062 and SAT-LOI-20050312-00063, ARE GRANTED IN PART. Accordingly, Spectrum Five, LLC IS GRANTED access to the United States to provide direct broadcast satellite service from the Spectrum 1A and Spectrum 1B satellites to be located at the 114.5° W.L. orbital location in the DBS band (12.2-12.7 GHz (space-to-Earth)), subject to the following conditions:

- a. Communication services originating in the United States will be provided via the Spectrum 1A and Spectrum 1B satellites only to points in the Netherlands, Netherlands Antilles, and the United States.
- b. Within 30 days of completion of critical design review, Spectrum Five must supply the final characteristics of its beams to the Commission in the form of .gxt files for each beam, or in the alternative, as a GIMS database file containing the characteristics of all of its beams.
- c. Within 30 days of completion of critical design review, Spectrum Five must supply updated service area information for each of its antenna beams. Spectrum Five must also provide all the technical characteristics of the satellites modified as a result of the coordination process.
- d. Spectrum Five may operate feeder links and service links originating or terminating in

¹³⁵ *Id.*

¹³⁶ See 47 C.F.R. § 25.210(l). We note that in the *DBS Notice*, the Commission seeks comment on whether to require all DBS operators to be subject to annual reporting requirements. See *DBS Notice* at para. 27.

the United States on its Spectrum 1A and Spectrum 1B satellites in a manner that does not exceed the interference limits in Annex 1 to Appendices 30 and 30A of the ITU Radio Regulations¹³⁷ at any location within the U.S. service areas of any affected operators.¹³⁸ Upon a showing to the Commission of successful coordination with any such affected operator (pursuant to Article 4.2 of Appendices 30 and 30A of the Radio Regulations), Spectrum Five may operate in a manner consistent with such coordination.

- e. Spectrum Five's U.S. operations on the Spectrum 1A and 1B satellites are subject to the provisions of Article 4.2 of Appendices 30 and 30A of the International Radio Regulations. Even after launch of a satellite that would operate pursuant to an entry in the ITU plan or pursuant to an earlier filed modification, Spectrum Five may continue operations: (i) upon a showing of coordination with such satellite, or (ii) if such satellite is not affected by continued U.S. operations of Spectrum 1A and 1B satellites and associated earth stations. Spectrum Five's U.S. operations shall be in compliance with applicable current and future operational requirements as a result of coordination agreements reached with other satellite systems.
- f. Until it has successfully coordinated with affected operators, Spectrum Five must inform its customers that its service is subject to coordination agreements with other operators, both foreign and domestic, and that Spectrum Five may be required to discontinue or alter service (*e.g.*, by replacement of subscriber antennas).
- g. Spectrum Five's DBS operations must be conducted consistent with all rules applicable to other Commission direct broadcast satellite/direct-to-home licensees (*e.g.*, geographic service requirements of 47 C.F.R. § 25.148(c), the public interest obligations of 47 C.F.R. § 25.701, and the emergency alert system rules in 47 C.F.R. Part 11). In addition, to the extent that Spectrum Five offers television broadcast channels to subscribers pursuant to the statutory copyright license, it must comply with all applicable statutory requirements and Commission rules related to such carriage.
- h. This grant is conditioned upon Spectrum Five's Netherlands-issued authorization for the Spectrum 1A and Spectrum 1B satellites remaining in full force and effect.
- i. Spectrum Five is afforded 30 days from the date of the release of this grant to decline it, as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization, as conditioned.

44. IT IS FURTHER ORDERED that this grant is subject to any rules adopted in the Notice of Proposed Rulemaking Proceeding in IB Docket 06-160.

45. IT IS FURTHER ORDERED that Spectrum Five must comply with the milestone schedule required by Section 25.148(b) of the Commission's rules, 47 C.F.R. § 25.148(b): (1) Within *one year* of grant: complete contracting for all system satellites. (2) Within *four years* of grant: complete construction of the first satellite in the system. (3) Within *six years* of grant: all satellites in the system must be in operation. In addition, Spectrum Five must complete its critical design review within two

¹³⁷ In particular, Spectrum Five shall not exceed a 0.25 dB change in overall equivalent protection margin with respect to the reference situation that existed for DBS satellites serving the U.S.

¹³⁸ In this context, an "affected" operator is one that is deemed affected in Appendices 30 and 30A of the ITU Radio Regulations.

years of this grant.

46. IT IS FURTHER ORDERED that Spectrum Five file must submit annual progress reports that illustrate the steps it has taken toward meeting its milestones. Progress reports will be due every June 30, with the first report due June 30, 2007, until the Spectrum Five system has been launched and is operating.

47. IT IS FURTHER ORDERED that Spectrum Five's request to waive the information requirements of Section S6, S8, and S10 of Schedule S, as required by Sections 25.114(a), (c) of the Commissions rules, 47 C.F.R. §§ 25.114(a), (c), IS GRANTED to the extent as described herein.

48. This *Order and Authorization* is issued pursuant to Section 0.261 of the Commission's rules on delegations of authority, 47 C.F.R. § 0.261, and is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION

John V. Giusti
Acting Chief, International Bureau