

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

In the Matter of)	
)	
Applications of DIRECTV Enterprises, LLC	)	File Nos. SES-LIC-20080205-00113
	)	SES-AMD-20080206-00128
For Four Ka-band Earth Station Licenses	)	SES-AMD-20080222-00186
	)	Call Sign: E080025
)	
	)	SES-LIC-20080205-00114
	)	SES-AMD-20080206-00127
	)	SES-AMD-20080222-00187
	)	Call Sign: E080026
)	
	)	SES-LIC-20080205-00115
	)	SES-AMD-20080222-00189
	)	Call Sign: E080027
)	
	)	SES-LIC-20080205-00116
	)	SES-AMD-20080206-00126
	)	SES-AMD-20080222-00188
	)	Call Sign: E080028
)	

MEMORANDUM OPINION AND ORDER

Adopted: August 20, 2008

Released: August 20, 2008

By the Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. In this Memorandum Opinion and Order (*Order*), we grant authorizations to DIRECTV Enterprises, LLC. (DIRECTV) to operate four fixed satellite-service (FSS) Ka-band earth stations.¹ In addition, we grant DIRECTV a waiver of certain Ka-band antenna performance testing requirements.² We also consider DIRECTV's request for a waiver of the requirement to coordinate the earth stations' operations with Fixed Service (FS) operators in the Ka-band. For certain segments of the Ka-band, we dismiss the request as moot because the Commission's rules do not require coordination or because DIRECTV has met the coordination requirement. In other band segments, we grant DIRECTV's request to the extent that DIRECTV

¹ For purposes of this *Order*, the Ka-band encompasses the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, 29.25-30.0 GHz bands.

² See Sections 25.115(e) and 25.138(d) of the Commission's Rules, 47 C.F.R. §§ 25.115(e), 25.138(d).

has shown that the earth stations' operations will not impact any licensed FS facilities operating in these bands, and otherwise deny DIRECTV's request. These authorizations will enhance DIRECTV's ability to provide direct-to-home satellite service to the public.

II. BACKGROUND

2. The Ka-band contains co-primary frequency allocations for the FS and the FSS, among other services.³ To maximize the efficient use of the Ka-band, the Commission has designated certain portions of the band for exclusive FS or FSS use, and other portions for shared, co-primary use by the FS and the FSS.⁴ Generally, Section 25.203 of the Commission's rules requires FSS operators to coordinate their operations with FS operations in frequency bands in which the two services operate on a co-primary basis.⁵

3. On February 5, 2008, DIRECTV filed license applications for four Ka-band earth stations -- two in Colorado and two in New Hampshire -- to communicate with its licensed Ka-band satellites. DIRECTV filed amendments to all four applications. In the applications, DIRECTV requests waivers of two rules. First, DIRECTV requests waiver of the requirement that Ka-band earth station applicants provide the results of certain antenna performance tests with their applications.⁶ DIRECTV also seeks waiver of the coordination requirements in Section 25.203.⁷ The Satellite Division placed the amended applications on Public Notice on February 27, 2008. No comments or oppositions were filed.

III. DISCUSSION

A. Ka-Band Testing

4. Sections 25.115(e) and 25.138(d) of the Commission's rules require Ka-band earth station applicants to provide with their applications a series of radiation patterns measured on a

³ See Section 2.106 of the Commission's Rules, 47 C.F.R. § 2.106. Allocation of a given frequency band to a particular service on a "primary" basis entitles that service to protection against harmful interference from stations of a "secondary" service. Further, secondary services cannot claim protection from harmful interference caused by stations of a primary service. Sections 2.104(d) and 2.105(c) of the Commission's Rules, 47 C.F.R. §§ 2.104(d), 2.105(c). "Co-primary" services share a frequency band on an equal basis and may not cause harmful interference to each other.

⁴ See, e.g., Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *First Report and Order and Fourth Notice of Proposed Rulemaking*, CC Docket No. 92-297, 11 FCC Rcd 19005 (1996); Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order*, IB Docket No. 98-172, 15 FCC Rcd 13430, 13435 (para. 10) (2000) (*18 GHz Order*). A "primary" service may cause harmful interference to a secondary service, and must be protected from harmful interference from secondary services.

⁵ 47 C.F.R. § 25.203.

⁶ 47 C.F.R. §§ 25.115(e), 25.138(d).

⁷ 47 C.F.R. § 25.203.

production antenna operating on a calibrated antenna range.⁸ According to DIRECTV, these radiation pattern tests are better suited to small, mass-produced antennas than to the larger earth stations that DIRECTV proposes to deploy. DIRECTV states that it cannot easily test its antennas – which are 9.1 meters and 13.4 meters in diameter -- on a calibrated antenna range because they are generally transported in sections, and manufactured and tested on the antenna site.⁹ Therefore, in lieu of the radiation pattern test results for the proposed earth stations, DIRECTV provides test data from previously licensed identical model antennas.¹⁰

5. We find that DIRECTV is persuasive on this issue. Antennas that are too large to be mass-produced are usually assembled and tested on site. We also find that the data provided by DIRECTV on its identical model antennas are sufficient to show that the antenna will comply with the Commission's technical rules. Accordingly, we grant DIRECTV a waiver of Section 25.138(d) for purposes of allowing it to provide antenna pattern test data from identical antennas. However, to ensure that each individual antenna is operating properly, we also require DIRECTV to conduct these tests and to make the results available to the Commission upon request.¹¹

B. Coordination

6. The only other issue raised by these applications is the extent to which DIRECTV is required to coordinate the earth stations' operations with Fixed Service operators in co-primary bands. Because different portions of the Ka-band contain different frequency allocations, we consider each segment of the Ka-band in which DIRECTV seeks to operate separately below.

7. *19.7-20.2 GHz and 29.5-30.0 GHz.* DIRECTV seeks to use its earth stations to receive transmissions in the 19.7-20.2 GHz band segment and to transmit in the 29.5-30 GHz band segment. These band segments do not contain an allocation for the Fixed Service.¹² Accordingly, Ka-band earth station operators do not have to coordinate with FS operators in these bands.

8. *18.3-18.8 GHz.* DIRECTV's proposed earth stations will receive transmissions from the DIRECTV Ka-band satellites in the 18.3-18.8 GHz segment of the Ka-band. The 18.3-18.8 GHz band segment is allocated to the Fixed Service and to the "Space-to-Earth" Fixed Satellite Service on a co-primary basis. However, FS facilities are being transitioned out of this band segment. Specifically, new FS facilities in this band were prohibited as of 2000 or 2002,

⁸ 47 C.F.R. § 25.138(d).

⁹ *See, e.g.*, Application File No. SES-LIC-20080205, Attachment A at 2-3.

¹⁰ *See, e.g.*, Application File No. SES-LIC-20080205, Attachment A at 2-3.

¹¹ The Commission may waive its rules for good cause. 47 C.F.R. § 1.3. *See also* *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969), *cert. denied*, 409 U.S. 1027 (1972) (*WAIT Radio*). The Commission may exercise its discretion to waive a rule where the particular facts make strict compliance inconsistent with the public interest. *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (*Northeast Cellular*). In doing so, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis. *WAIT Radio*, 418 F.2d at 1159; *Northeast Cellular*, 897 F.2d at 1166.

¹² 47 C.F.R. § 2.106.

depending on their specific operating frequencies.¹³ FS facilities licensed before those dates are allowed to continue to operate in this band until 2010 or 2012.¹⁴ During this transition period, FSS operations are not entitled to protection from harmful interference from “grandfathered” FS facilities in this band segment.¹⁵

9. DIRECTV’s proposed receive-only operations in the 18.3-18.8 GHz band segment are not physically capable of causing interference to any grandfathered FS stations in this band. Further, DIRECTV states that, in accordance with Commission policy during the transition period, it will accept any harmful interference from 18.3-18.8 FS operations until the FS stations are phased out of this band. Under these circumstances, we conclude that there are no FS facilities in this band with which FSS operators need to coordinate. Accordingly, to the extent that a waiver is required, we conclude that there is good cause to waive the FSS/FS coordination requirement in this band.

10. *28.35-28.6 GHz and 29.25-29.5 GHz.* DIRECTV proposes to use its four earth stations to transmit in the 28.35-28.6 GHz and 29.25-29.5 GHz band segments of the Ka-band. Both of these band segments are allocated to the Fixed Service and the Fixed Satellite Service (Earth-to-space) on a co-primary basis.¹⁶ To facilitate sharing between Ka-band FS and FSS facilities, the Commission designated the 28.35-28.6 GHz and 29.25-29.5 GHz band segments for FSS use.¹⁷ In making this designation for FSS, the Commission noted that there were a small number of licensed temporary-fixed FS facilities in this band.¹⁸ The Commission observed further that these FS facilities are used only on an infrequent and irregular basis as back-up facilities for wireline services when other forms of wireline services are unavailable.¹⁹ In addition, the Commission stated that it would allow only those temporary-fixed FS facilities

¹³ Specifically, new facilities in the 18.3-18.58 GHz portion of this band segment were prohibited as of November 19, 2002. New facilities in the 18.58-18.8 GHz portion of this band segment were prohibited as of June 8, 2000. 47 C.F.R. § 101.97(a).

¹⁴ Existing Fixed Service operations in the 18.3-18.58 GHz portion of this band segment are allowed to remain in operation until November 19, 2012, and such operations can continue in the 18.58-18.8 GHz portion of this band segment until June 8, 2010. 47 C.F.R. § 101.85(b).

¹⁵ 47 C.F.R. § 25.145(g).

¹⁶ 47 C.F.R. § 2.106.

¹⁷ See *18 GHz Order*, 15 FCC Rcd at 13435 (para. 10); Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Service, *First Report and Order and Fourth Notice of Proposed Rulemaking*, CC Docket No. 92-297, 11 FCC Rcd 19005, 19025 (para. 42) (1996).

¹⁸ Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order*, IB Docket No. 98-172, *Second Order on Reconsideration*, 17 FCC Rcd 24248, 24260-61 (para. 25) (2002) (*18 GHz Second Reconsideration Order*). At the time of the *18 GHz Second Reconsideration Order*, there were 30 temporary FS licenses in effect. Twenty-seven of those licenses remain in effect now.

¹⁹ *18 GHz Second Reconsideration Order*, 17 FCC Rcd at 24260-61 (para. 25).

operating before July 31, 1996 to continue to operate in the 29.25-29.5 GHz band.²⁰ The parties licensed for temporary-fixed FS operations in the 29.25-29.5 GHz band are also licensed for such operations in the 28.35-28.6 GHz band.

11. DIRECTV requests a waiver of the frequency coordination requirement in Section 25.203 of the Commission's rules. Specifically, DIRECTV argues that it has been licensed to operate other earth station facilities in these bands that are located near the sites for the earth stations that it proposes in the applications before us.²¹ DIRECTV also notes that the Commission's rules do not permit temporary fixed wireless operations to remain in one place for more than six months.²² DIRECTV further contends that those other earth station facilities have been in operation for periods ranging from 19 to 31 months, and no temporary fixed wireless operators have asked to coordinate with those existing earth stations.²³ On this basis, DIRECTV asserts that there are no such temporary fixed licensees operating near DIRECTV's proposed new earth stations.²⁴

12. The Commission may waive its rules in a particular case if doing so would not undermine the policy objective of the rule in question and would otherwise serve the public interest.²⁵ We conclude that DIRECTV has shown that its waiver request is warranted with respect to three of its four earth station applications.²⁶ For those three earth stations, we agree with DIRECTV that its existing earth stations are reasonably close to the site for a proposed earth station in an application before us now. If any temporary fixed operations had started to operate near DIRECTV's proposed earth station sites, it would have been required to coordinate with the existing earth stations. Accordingly, we conclude that DIRECTV is correct that there are no temporary fixed wireless operators that are potentially affected by DIRECTV's proposed operations at these three locations.²⁷

²⁰ See *18 GHz Second Reconsideration Order*, 17 FCC Rcd at 24260-61 (para. 25). See also 47 C.F.R. § 101.4.

²¹ See, e.g., SES-AMD-20080222-00189, filed Feb. 22, 2008, Attachment at 1.

²² See, e.g., SES-AMD-20080222-00189, filed Feb. 22, 2008, Attachment at 1. See also Section 101.31(a)(1)(i) of the Commission's rules, 47 C.F.R. § 101.31(a)(1)(i).

²³ See, e.g., SES-AMD-20080222-00186, filed Feb. 22, 2008, Attachment at 1; SES-AMD-20080222-00189, filed Feb. 22, 2008, Attachment at 1.

²⁴ See, e.g., SES-AMD-20080222-00189, filed Feb. 22, 2008, Attachment at 1.

²⁵ 47 C.F.R. § 1.3, *WAIT Radio*, 418 F.2d 1153; Dominion Video Satellite, Inc., *Order and Authorization*, 14 FCC Rcd 8182, 8185 (para. 5) (Int'l Bur., 1999) (*Dominion Video*).

²⁶ Those three earth stations are Call Signs E080025, E080026, and E080027.

²⁷ As an alternative argument, DIRECTV contends that temporary fixed stations are required to notify the Commission five days prior to installation of such temporary facilities, providing the location and operational parameters for its system. DIRECTV further states that it searched the Commission's records and did not find any notifications of temporary authorizations in the relevant band in the area near DIRECTV's planned earth station sites. See, e.g., SES-AMD-20080222-00186, filed Feb. 22, 2008, Attachment at 1. We do not find this argument persuasive. Section 101.31, which sets forth the filing requirements for temporary fixed stations in the FS service, was amended in 2002 to eliminate the requirement to file a notification of temporary fixed operation with the Commission. Amendment of Part 101 of the Commission's Rules to Streamline Processing of Microwave Applications in the Wireless

13. With respect to the fourth earth station, Call Sign E080028 in Littleton, N.H., however, we find that DIRECTV has not justified its waiver request. The closest existing DIRECTV earth station operating in the 28.35-28.6 GHz and 29.25-29.5 GHz bands is 46 miles away. Therefore, we cannot determine whether any temporary fixed wireless operators would be potentially affected by DIRECTV's proposed operations in Littleton. Accordingly, we deny DIRECTV's waiver request with respect to this earth station, and we deny in part DIRECTV's application to the extent that it seeks authority to operate this earth station in the 28.35-28.6 GHz and 29.25-29.5 GHz bands.²⁸

IV. CONCLUSION

14. We find that DIRECTV's proposed earth station operations comply with all the applicable technical requirements in Part 25. We grant DIRECTV's request for waiver of the requirement to provide certain testing data for its 9.1-meter and 13.4-meter diameter Ka-band antennas. We also find that DIRECTV is not required to coordinate its operations with those of FS operators in the Ka-band, with the exception of the 18.3-18.8 GHz, 28.35-28.6 GHz, and 29.25-29.5 GHz bands. We waive that requirement with respect to the 18.3-18.8 GHz band, however, for reasons set forth above. In addition, DIRECTV's earth stations must accept interference from FS operations in the 18.3-18.8 GHz band until FS facilities are phased out of this band in 2010 and 2012.²⁹

15. We further conclude that DIRECTV has justified a waiver of the coordination requirement in the 28.35-28.6 GHz and 29.25-29.5 GHz bands with respect to three of its four proposed earth stations. DIRECTV has not justified such a waiver for its fourth proposed earth station, in Littleton, N.H. Therefore, we do not grant authority to DIRECTV to operate this earth station in these bands.

V. ORDERING CLAUSES

16. Accordingly, IT IS ORDERED that File Nos. SES-LIC-0080205-000113, SES-AMD-20080206-00128, and SES-AMD-20080222-00186 (for Call Sign E080025); SES-LIC-20080205-00114, SES-AMD-20080206-00127, and SES-AMD-20080222-00187 (for Call Sign

Telecommunications Services, *Report and Order*, WT Docket 00-19, 17 FCC Rcd 15040, 15053 (para. 22) (2002). Therefore, the mere absence of such a notification in the Commission's records does not preclude the possibility that FS operators are operating in the vicinity of DIRECTV's planned earth station locations.

²⁸ If DIRECTV coordinates this earth station, we would consider a modification application requesting authority to operate the Littleton earth station in the 28.35-28.6 GHz and 29.25-29.5 GHz bands. We noted above that there are 27 temporary FS operators licensed to operate in either of these bands. Of those, only seven are potentially affected by the Littleton earth station: four with CONUS licenses (Call Signs KQH73, KYJ33, WLL505 and WMK817), two licensed to operate in New Hampshire, among other states (Call Signs KEM34 and WMQ699), and one licensed to operate in New York State, which is close to New Hampshire (Call Sign KEB29). Thus, we do not anticipate that this coordination requirement would be burdensome for DIRECTV.

²⁹ Specifically, DIRECTV must accept interference in the 18.58-18.8 GHz portion of this band segment until June 8, 2010. DIRECTV must accept interference in the 18.3-18.58 GHz portion of this band segment until November 19, 2012. 47 C.F.R. § 101.85(b).

E080026); SES-LIC-20080205-00115 and SES-AMD-20080222-00189 (for Call Sign E080027) ARE GRANTED.

17. IT IS FURTHER ORDERED that that File Nos. SES-LIC-20080205-00116, SES-AMD-20080206-00126, and SES-AMD-20080222-00188 (for Call Sign E080028) ARE GRANTED IN PART AND DENIED IN PART, to the extent indicated above.

18. IT IS FURTHER ORDERED that DIRECTV Enterprises, LLC.'s request for waiver of Sections 25.115(e) and 25.138(d) IS GRANTED, for purposes of allowing it to provide test data from identical earth station antennas with its applications. As a condition on this waiver, DIRECTV Enterprises, LLC. must conduct on-site tests of its earth station antennas, and must make the results of those tests available to the Commission upon request.

19. IT IS FURTHER ORDERED that the requirement that DIRECTV Enterprises, LLC. coordinate with FS operations in the 18.3-18.8 GHz band pursuant to Section 25.203 of the Commission's rules, 47 C.F.R. § 25.203, IS WAIVED to the extent set forth above.

20. IT IS FURTHER ORDERED that the four earth station licenses issued to DIRECTV Enterprises, LLC. ARE CONDITIONED as follows: Pursuant to Section 25.145(g) of the Commission's rules, operations in the 18.3-18.8 GHz band are not entitled to protection from co-primary terrestrial services until the period during which terrestrial stations remain co-primary has expired.

21. IT IS FURTHER ORDERED that the request for waiver of the requirement that DIRECTV Enterprises, LLC. coordinate with FS operations in the 28.35-28.6 GHz and 29.25-29.5 GHz bands pursuant to Section 25.203 of the Commission's rules, 47 C.F.R. § 25.203, IS GRANTED with respect to Call Signs E080025, E080026, and E080027, and DENIED with respect to Call Sign E080028.

22. The 17.8 - 20.2 GHz band is shared with U.S. Government space stations and associated earth stations in the Fixed-Satellite Services. Services within the United States over the satellite network of which this is a cooperating earth station are subject to coordination under US334 and operation of the earth station(s) authorized herein will be subject to any technical constraints resulting from this coordination.

FEDERAL COMMUNICATIONS COMMISSION

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