

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

In the Matter of)	
)	
PanAmSat Licensee Corp.)	IBFS Nos. SAT-MOD-20050325-00072;
)	SAT-MOD-20050325-00073;
Application for Authority to Use Extended)	SAT-MOD-20050325-00074
Ku-Band Frequencies for Domestic Service)	
)	Call Signs S2368; S2253; S2380
)	

ORDER AND AUTHORIZATION

Adopted: September 15, 2005

Released: September 15, 2005

By the Acting Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. By this Order, we modify the authorizations of PanAmSat Licensee Corp. (PanAmSat) for three in-orbit satellites – PAS-1R (Call Sign S2368), Galaxy 11 (Call Sign S2253), and PAS-23 (Call Sign S2380)¹ – to permit service between U.S. domestic points using frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands (extended Ku-band) on an unprotected, non-interference basis² relative to fixed stations (FS), subject to certain conditions.³ In doing so, we also grant PanAmSat’s associated requests for waiver of rule provisions that restrict use of the fixed-satellite service (space-to-Earth)⁴ (FSS downlinks) in the 10.7-11.7 GHz band to international service only.⁵ Grant of these applications will serve the public interest by enabling PanAmSat to make additional FSS capacity available for U.S.

¹ After filing its license application, PanAmSat renamed the PAS-23 space station “PAS-9.” For the sake of convenience, we will continue to refer to this satellite as PAS-23 in this Order.

² For purposes of this Order, operations on an “unprotected, non-interference basis” means that PanAmSat may not cause harmful interference to, and may not claim protection from, fixed stations to which frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands have either already been assigned, or to which frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands may be assigned at a later date.

³ Because the use of the fixed-satellite service (FSS) in the band 10.7-11.7 GHz is limited to space-to-Earth transmissions, only space stations are authorized to transmit in the extended Ku-band. The Commission relies on the power flux-density (pfd) limits for space stations transmitting in the band 10.7-11.7 GHz, which are codified at 47 C.F.R. § 25.208(b), to provide the basis for sharing the extended Ku-band frequencies between terrestrial and space services. Nothing in this Order changes our reliance on this basis for sharing, and thus licensees of fixed stations operating in the 10.95-11.2 GHz and 11.45-11.7 GHz bands will continue to be protected to the same level as they currently enjoy.

⁴ In the case where there is a parenthetical addition to an allocation in the United States Table [example: FIXED-SATELLITE (space-to-Earth)], that service allocation is restricted to the type of operation so indicated. 47 C.F.R. § 2.105(d) (4).

⁵ 47 C.F.R. § 2.106 footnote NG104; 47 C.F.R. § 25.202(a)(1) footnote 2.

domestic use, including the delivery of high-definition television and local-into-local programming, thereby enhancing consumer choice in space radiocommunication providers and services.⁶

II. BACKGROUND

2. PanAmSat proposes to modify its authorizations for three in-orbit satellites to include authority to provide domestic service in the 10.95-11.2 GHz and 11.45-11.7 GHz bands in addition to its existing authority to provide international service in these bands.⁷ All three satellites – PAS-1R, Galaxy 11, and PAS-23 – were licensed by the Commission in 2000⁸ and are authorized to use C-band and both conventional and extended Ku-band frequencies.⁹ PanAmSat’s authority to use extended Ku-band frequencies is conditioned on PanAmSat complying with footnote NG104 of the United States Table of Frequency Allocations, which limits FSS operations in the extended Ku-band to international service only.¹⁰

3. PanAmSat seeks to remove this restriction on its existing licenses and to add authority to use extended Ku-band downlink frequencies for domestic service within the United States. Specifically, PanAmSat’s applications seek to permit domestic operations of the PAS-1R satellite in the 10.95-11.2 GHz and 11.45-11.7 GHz bands,¹¹ to permit domestic operations of the Galaxy 11 in the 10.95-11.2 GHz band,¹² and to permit domestic operations of the PAS-23 satellites in the 11.45-11.7 GHz band.¹³

4. In order to permit service between U.S. domestic points in the frequency bands requested, PanAmSat seeks waiver of footnote NG104 and footnote 2 of Section 25.201(a)(1) of the Commission’s

⁶ In Region 2, the 11.7-12.2 GHz band is allocated for FSS downlinks; however, it is allocated to the broadcasting-satellite service (BSS) in Region 1. Because of these differences between Regional allocations, PanAmSat has requested the use of the 10.95-11.2 GHz and 11.45-11.7 GHz bands, which are allocated for FSS downlink use on a primary basis throughout the world.

⁷ See PanAmSat Licensee Corp., IBFS Nos. SAT-MOD-20050325-00072 (*PAS-1R Application*), SAT-MOD-20050325-00073 (*Galaxy 11 Application*), SAT-MOD-20050325-00074 (*PAS-23 Application*) (filed Mar. 25, 2005).

⁸ See PanAmSat Licensee Corp., Application for Authority to Launch and Operate a Hybrid Replacement Fixed Satellite Service Space Station, *Order and Authorization*, 15 FCC Rcd 22156 (Sat. & Radiocomm. Div., Int’l Bur. 2000) (*PAS-1R Authorization Order*); PanAmSat Licensee Corp., Application for Authority to Launch and Operate a C/Ku Hybrid Fixed-Satellite Service Space Station, *Order and Authorization*, 15 FCC Rcd 4456 (Sat. & Radiocomm. Div., Int’l Bur. 2000) (*Galaxy-11 Authorization Order*); PanAmSat Licensee Corp., Application for Authority to Launch and Operate a Replacement C/Ku Hybrid Fixed Satellite Service Space Station at 58° W.L., *Order and Authorization*, 15 FCC Rcd 11747 (Sat. & Radiocomm. Div., Int’l Bur. 2000) (*PAS-23 Authorization Order*).

⁹ The conventional C-band refers to the 3700-4200 MHz (downlink) and 5925-6425 MHz (uplink) bands. The “conventional Ku-band” refers to the 11.7-12.2 GHz (downlink) and 14-14.5 GHz (uplink) bands.

¹⁰ See *PAS-1R Authorization Order*, 15 FCC Rcd at 22160 (para. 12); *Galaxy-11 Authorization Order*, 15 FCC Rcd at 4463 (para. 17); *PAS-23 Authorization Order*, 15 FCC Rcd at 11748 (para. 4). 47 C.F.R. §2.106 footnote NG104 states “[t]he use of the bands 10.7-11.7 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by the fixed-satellite service in the geostationary-satellite orbit shall be limited to international systems, *i.e.*, other than domestic systems.”

¹¹ *PAS-1R Application*, Request for Waiver at 1.

¹² *Galaxy 11 Application*, Request for Waiver at 1.

¹³ *PAS-23 Application*, Request for Waiver at 1.

rules, which limit FSS operations in the extended Ku-band to international service only.¹⁴ PanAmSat argues that grant of its waiver requests would serve the public interest by making additional capacity available for communications services, including high definition television and local-into-local programming, and that grant of a waiver in this instance would not undermine the purpose of the Commission's rules.¹⁵

5. PanAmSat's applications appeared on public notice on April 29, 2005.¹⁶ No comments were filed in response to the public notice. Because PanAmSat's applications present identical questions of law and facts, we address all three applications in this Order.

III. DISCUSSION

6. Pursuant to Section 2.102 of the Commission's rules, the assignment, authorization, and use of frequencies and bands of frequencies between 9 kHz and 275 GHz shall be in accordance with the Table of Frequency Allocations, 47 C.F.R. Section 2.106.¹⁷ Section 1.3 of the Commission's rules authorizes the Commission to waive its rules for "good cause shown."¹⁸ Waiver is appropriate only if special circumstances warrant a deviation from the general rule, and such deviation would better serve the public interest than would strict adherence to the general rule.¹⁹ Generally, the Commission may grant a waiver of its rules in a particular case only if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.²⁰ In considering requests for non-conforming spectrum uses, the Commission has indicated that it would generally grant such waivers "when there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the non-conforming operator accepts any interference from authorized services."²¹

7. PanAmSat seeks to downlink service originating from domestic uplinks to customer earth stations that would receive frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands. Internationally, the extended Ku-band is allocated to the FS, FSS (space-to-Earth), and mobile (except aeronautical mobile service) on a co-primary basis throughout the world.²² In the United States, the

¹⁴ *PAS-IR Application*, Request for Waiver at 2; *Galaxy 11 Application*, Request for Waiver at 2; *PAS-23 Application*, Request for Waiver at 2.

¹⁵ *PAS-IR Application*, Request for Waiver at 3-4; *Galaxy 11 Application*, Request for Waiver at 3-4; *PAS-23 Application*, Request for Waiver at 3-4.

¹⁶ *Public Notice*, Policy Branch Information: Satellite Space Station Applications Accepted for Filing, Report No. SAT-00288 (rel. April 29, 2005).

¹⁷ 47 C.F.R. § 2.102(a). Certain exceptions are specified in Section 2.102, none of which are at issue herein.

¹⁸ See Section 1.3 of the Commission's rules, 47 C.F.R. §1.3. See also *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969) (*WAIT Radio*); *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1166 (D.C. Cir. 1990) (*Northeast Cellular*).

¹⁹ *Northeast Cellular*, 897 F.2d at 1166.

²⁰ *WAIT Radio*, 418 F.2d at 1157.

²¹ Fugro-Chance, Inc., Application for Blanket Authority For Blanket Authority to Construct and Operate a Private Network of Receive-Only Mobile Earth Stations, *Order and Authorization*, 10 FCC Rcd 2860 (para. 2) (1995) (authorizing non-conforming mobile-satellite service in the C-band). See also Motorola Satellite Communications, Inc., Application for Modification of License, *Order and Authorization*, 11 FCC Rcd 13952, 13956 (para. 11) (1996) (authorizing service to fixed terminals in bands allocated to the mobile-satellite service).

²² In Region 1, the band 10.7-11.7 GHz is also allocated to the FSS (Earth-to-space). International footnote 5.484 limits the use of this FSS uplink allocation to BSS feeder links.

extended Ku-band is allocated to the FS and FSS (space-to-Earth) services on a co-primary basis for non-Federal use.²³ Footnote NG104 and footnote 2 of Section 25.202(a)(1)²⁴ of the Commission's rules limit FSS operations in the extended Ku-band, including the 10.95-11.2 GHz and 11.45-11.7 GHz sub-bands requested by PanAmSat, to international service only.²⁵ The Commission found that restricting FSS use in these frequency bands to international systems would limit the number of FSS earth stations with which licensees of co-primary fixed stations would need to coordinate.²⁶ Accordingly, the Commission's rules permit a satellite to provide downlink service into the United States and its insular areas in the 10.95-11.2 GHz and 11.45-11.7 GHz bands only if the earth station transmission (uplink) originates outside the United States and its insular areas.

8. In its requests for waivers, PanAmSat claims that operation of receive-only customer earth stations on an uncoordinated basis will not inhibit or otherwise adversely impact the operations of authorized fixed stations in the same frequency band.²⁷ Specifically, PanAmSat contends that FS operations will be protected from interference because the satellite downlinks will comply with the power flux-density limits set forth in the Commission's rules.²⁸ PanAmSat states that grant of its modification requests will not "alter the footprint, power, or other operational characteristics" of the PAS-1R, Galaxy 11, and PAS-23 satellites.²⁹ PanAmSat also states its willingness to accept "any level of interference from FS stations into its earth stations in the extended Ku-band."³⁰ Thus, according to PanAmSat, operations in this manner will not undermine the underlying policy of footnote NG104, because the fixed service will not be adversely impacted by interference or coordination burdens by PanAmSat's operations.³¹

9. The Commission has previously authorized the downlink of domestic service to customer receive-only earth stations in the 11.45-11.7 GHz band.³² In the *EchoStar Orders*, we determined that a

²³ 47 C.F.R. §§2.106 and 25.202(a)(1). Allocation of a given frequency band to a particular service on a primary basis entitles operators to protection against harmful interference from stations of "secondary" services. Further, secondary services cannot claim protection from harmful interference caused by stations of a primary service. See 47 C.F.R. §§2.104(d) and 2.105(c). Co-primary means that the services share a frequency band on an equal basis, that facilities will be protected based on the order in which the license applications are coordinated and authorized, and that the services have equal rights of protection against harmful interference from stations of secondary services.

²⁴ 47 C.F.R. §25.202(a)(1) footnote 2 states "[u]se of this by geostationary satellite orbit satellite systems in the fixed-satellite service is limited to international systems; *i.e.*, other than domestic systems."

²⁵ See *Satellite Services*, 26 RR 2d 1257, 1263-65 (1973), and *GWARC Inquiry*, 70 FCC 2d 1193, 1252 (1978). See also *Assignment of Orbital Locations to Space Stations in the Domestic Fixed Satellite Service and the Applications of GE American Communications, Inc, Order and Authorization*, 15 FCC Rcd 3385 (Sat. & Radiocomm. Div. 1999).

²⁶ *Id.*

²⁷ *PAS-1R Application*, Request for Waiver at 3-4; *Galaxy 11 Application*, Request for Waiver at 3-4; *PAS-23 Application*, Request for Waiver at 3-4.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² See *EchoStar KuX Corporation Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 83° W.L. Orbital Location, Order and Authorization*, 20 FCC Rcd 919, 921-22 (para. 9) (Sat. Div., Int'l Bur. 2004); *EchoStar Satellite LLC Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band*

(continued...)

waiver of footnote NG104 would not undermine the rule's purpose because the waiver involved only passive receive-only earth stations that were not capable of causing interference into fixed stations operating in the same frequency band. Furthermore, because the space station operator agreed to accept any level of interference from fixed stations into its receive-only earth stations' operations in the extended Ku-band, FS operators would not be required to coordinate their station operations with the space station operator's receive-only earth stations' operations. Under those circumstances, we determined that an additional coordination burden would not be placed upon FS operators and that their ability to expand service in the future would not be restricted in any manner. We noted, however, that the space station operator could not claim protection from harmful interference from authorized FS stations to which frequencies were either already assigned, or would be assigned in the future. In addition, we required the space station operator to inform its customers, in writing, including any customers receiving end-use service from resellers accessing capacity on the applicable satellite, of the potential for interference from FS operations in the 11.45-11.7 GHz band.

10. For the same reasons as those provided in the *EchoStar Orders*, we find that PanAmSat's request for a waiver of footnote NG104 will not undermine the rule's purpose. PanAmSat's request meets the criteria generally required for non-conforming spectrum uses as its system involves only passive earth stations that are not capable of causing interference into FS stations operating in the 10.95-11.2 GHz and 11.45-11.7 GHz bands. In addition, PanAmSat has agreed to accept any level of interference from FS stations into its passive earth stations' operations. Furthermore, grant of PanAmSat's request serves the public interest by enabling PanAmSat to use the additional capacity to provide, among other things, high definition television and local-into-local programming. Accordingly, we grant PanAmSat authority to provide domestic service in the 10.95-11.2 GHz and 11.45-11.7 GHz bands in addition to the existing authority to provide international service in these frequency bands that is contained in PanAmSat's existing authorizations for the PAS-1R, Galaxy 11, and PAS-23 satellites.

11. We remind PanAmSat, however, that it is agreeing to operate its receive antennas in the extended Ku-band to provide domestic service on an unprotected, non-interference basis relative to fixed stations.³³ Accordingly, PanAmSat shall not cause harmful interference to, nor claim protection from, authorized FS stations in the extended Ku-band to which frequencies are either already assigned, or may be assigned in the future. In addition, we require PanAmSat to inform its customers, in writing, including any customers receiving end-use service from resellers accessing capacity on the PAS-1R, Galaxy 11, and PAS-23 satellites, of the potential for interference from FS operations in the 10.95-11.2 GHz and 11.45-11.7 GHz bands with regards to domestic service.

IV. ORDERING CLAUSES

12. Accordingly, IT IS ORDERED that the applications of PanAmSat Licensee Corp., IBFS Nos. SAT-MOD-20050325-00072, SAT-MOD-20050325-00073, and SAT-MOD-20050325-00074 ARE GRANTED, and PanAmSat Licensee Corp. IS AUTHORIZED to operate the PAS-1R space station (Call

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Frequencies in the Fixed-Satellite Service at the 109° W.L. Orbital Location, *Order and Authorization*, 20 FCC Rcd. 930 (Sat. Div., Int'l Bur. 2004); EchoStar KuX Corporation Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 121° W.L. Orbital Location, *Order and Authorization*, 20 FCC Rcd 942 (Sat. Div., Int'l Bur. 2004) (collectively, "*EchoStar Orders*").

³³ As exceptions, these earth stations may be coordinated (consistent with ITU procedures) with neighboring administrations on a primary basis and will be protected from fixed stations operating in those bordering countries. Additionally, these earth stations will be protected from fixed stations located in the United States and its insular areas that are not operating in accordance with their authorizations.

Sign S2368) at 45° West Longitude using frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands, to operate the Galaxy 11 space station (Call Sign S2253) at 91° West Longitude using frequencies in the 10.95-11.2 GHz band, and to operate the PAS-23 space station (Call Sign S2380) at 58° West Longitude using frequencies in the 11.45-11.7 GHz band, to provide domestic service in accordance with the terms, conditions, and technical specifications set forth in its application and this Order, and its current authorizations ARE MODIFIED accordingly.

13. IT IS FURTHER ORDERED that PanAmSat Licensee Corp.'s requests for waivers of footnote NG104 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, and of footnote 2 of Section 25.202(a)(1) of the Commission's Rules, 47 C.F.R. § 25.202(a)(1), in order to provide domestic service using earth stations that receive in the 10.95-11.2 GHz and 11.45-11.7 GHz bands ARE GRANTED.

14. IT IS FURTHER ORDERED that PanAmSat Licensee Corp. SHALL OPERATE its earth stations in the 10.95-11.2 GHz and 11.45-11.7 GHz bands that provide domestic service on an unprotected, non-interference basis relative to fixed stations and, as such, PanAmSat Licensee Corp. may not cause harmful interference to, or claim protection from, fixed stations to which frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands have either already assigned, or to which frequencies in the 10.95-11.2 GHz and 11.45-11.7 GHz bands may be assigned at a later date.

15. IT IS FURTHER ORDERED that PanAmSat Licensee Corp. is required to inform its customers, in writing, including end-users receiving service from resellers accessing capacity on the PAS-1R, Galaxy 11, and PAS-23 satellites, that the service in the 10.95-11.2 GHz and 11.45-11.7 GHz bands with regards to domestic service is being provided on an uncoordinated basis, AND THAT the potential exists that future-licensed fixed stations may cause harmful interference to these unprotected earth stations.

16. PanAmSat Licensee Corp. is afforded thirty days to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

17. This Order is effective upon release. Petitions for Reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within thirty days of the date of the release of this Order (see 47 C.F.R. § 1.4(b) (2)).

FEDERAL COMMUNICATIONS COMMISSION

Cassandra C. Thomas
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