

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

In the Matter of)	
)	
VisionStar, Inc.)	File No. 200-SAT-P/LA-95
)	
Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed-Satellite Service)	

ORDER AND AUTHORIZATION

Adopted: January 30, 2001

Released: January 31, 2001

By the Chief, International Bureau:

I. INTRODUCTION

1. By this Order, we modify VisionStar, Inc.'s ("VisionStar's") license to launch and operate a satellite system in the geostationary-satellite orbit ("GSO") to provide fixed-satellite service ("FSS") in a portion of the Ka-band.¹ In particular, we specify additional downlink operating frequencies for satellite-to-user transmissions.

II. BACKGROUND

2. In May 1997, as part of the first Ka-band processing round, the International Bureau authorized VisionStar to launch and operate a GSO satellite to provide FSS in the Ka-band.² VisionStar intends to use this system to provide a video distribution service with interactive capability intended to serve consumers, primarily in urban areas, in conjunction with CellularVision's Local Multipoint Distribution Service. VisionStar also proposes a broadband infrastructure offering distance learning, high-speed Internet services, interactive data, e-mail and video conferencing abilities. VisionStar is authorized to operate one satellite at 113° W.L.³ The *VisionStar Authorization Order* permits VisionStar to operate its

¹ The term "Ka-band" generally refers to the space-to-earth (downlink) frequencies at 17.7-20.2 GHz and the corresponding earth-to-space (uplink) frequencies at 27.5-30.0 GHz.

² See *In the Matter of VisionStar, Inc. Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed-Satellite Service*, 13 FCC Rcd 1428 (Int'l Bur. 1997) ("*VisionStar Authorization Order*"). We note that on December 15, 2000, an application for transfer of control of VisionStar to EchoStarVisionStar Corporation was filed with the Commission. We will consider this application in a separate proceeding.

³ *VisionStar Authorization Order* at 1431, ¶ 9. Specifically, VisionStar is authorized to operate at a nominal orbit location of 113.05° W.L., and with a station-keeping box of ±0.05°, thereby increasing the separation from the Canadian filing at 111.1° W.L. by 0.1° relative to the worst case orbital spacing using the

service links – satellite transmission links to and from user units – in the 28.35-28.6 GHz and the 29.25-30.0 GHz bands for uplink transmissions and the 19.7-20.2 GHz band for downlink transmissions.⁴ The *VisionStar Authorization Order* did not include additional downlink spectrum requested by VisionStar.⁵

Service Downlink Bands

3. In its original application, VisionStar requested 1000 megahertz of spectrum at 18.55-18.8 GHz and 19.45-20.2 GHz for its service downlink bands.⁶ The Ka-band arrangement in effect at that time, however, designated only the 17.7-18.8 GHz and 19.7-20.2 GHz bands for GSO FSS downlink operations.⁷ Consistent with the band arrangement, we authorized VisionStar to operate on 500 megahertz at 19.7-20.2 GHz for its service downlinks. We stated that VisionStar could make up the remaining 500 megahertz by operating in a portion of the 17.7-18.8 GHz frequency band. Nevertheless, because VisionStar had not applied for specific operating frequencies in this band, and because the Ka-band arrangement in effect at the time required GSO FSS operations in this band to be conducted on a co-primary basis with other services, we found it was premature to grant VisionStar operating authority in any portion of this band.⁸ Rather, we directed VisionStar to file a license modification application when it determined which 500 megahertz it wished to use in the 17.7-18.8 GHz band.⁹ Since that time, the Commission has released the *18 GHz Report and Order*, which designated the 18.3-18.8 GHz portion of the 17.7-18.8 GHz band for GSO FSS downlink operations.¹⁰

station-keeping assumed in the International Telecommunication Union (“ITU”) publications ($\pm 0.1^\circ$). *Assignment of Orbital Locations to Space Stations in the Ka-Band*, Order, 13 FCC Rcd 1030, 1032 n.7 (Int’l Bur. 1997).

⁴ *VisionStar Authorization Order* at 1434, ¶ 19.

⁵ *Id.*

⁶ *Id.* at 1434, ¶ 18.

⁷ *Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission’s Rules to Redesignate the 27.5 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, 11 FCC Rcd 19005 (1996).

⁸ *VisionStar Authorization Order* at 1434, ¶ 19.

⁹ *Id.* VisionStar is required to complete construction of its satellite by April 2002 and launch and operate its satellite by May 2002. *Id.* at 1438, ¶ 32. On May 17, 1999, VisionStar requested us to toll the milestone deadlines for its satellite, contending that it could not proceed with construction until it knew what additional downlink frequencies would be granted for Ka-band systems. See Letter from Michael R. Gardner to Cassandra Thomas, Deputy Chief, Satellite and Radiocommunication Division (December 14, 1999), that references and attaches an earlier letter from Shant Hovnanian to Thomas S. Tycz, Chief, Satellite and Radiocommunication Division (May 17, 1999). We will consider this request in a future Order.

¹⁰ *See 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*, IB Docket No. 98-172,

Compliance With Frequency Re-use Requirements

4. In the *VisionStar Authorization Order*, we indicated that VisionStar did not plan to employ frequency re-use.¹¹ In a letter dated April 1, 1998, VisionStar disputed this, referring to the technical discussion contained in its original application, and requested confirmation that it is fully in compliance with the Commission's Ka-band rules concerning frequency re-use.¹²

III. DISCUSSION

A. Service Downlink Bands

5. Recently, the Commission adopted rules for the deployment of services in the 17.7-20.2 GHz band ("18 GHz band").¹³ These rules are designed to reduce potential interference among the terrestrial and satellite services allocated in the band. The new band arrangement redesignates much of the spectrum that had been designated for co-primary satellite and terrestrial use as exclusive spectrum for either service.

This should reduce the need to coordinate with other services. Under the band arrangement adopted in the *18 GHz Report and Order*, the Commission retained the 19.7-20.2 GHz band for GSO FSS primary use, and split the 17.7-18.8 GHz band, originally shared on a co-primary basis by GSO FSS and the terrestrial fixed-service ("FS"), into three designations. Specifically, the Commission designated 500 megahertz to FS for primary use in the 17.7-18.3 GHz band, 280 megahertz for co-primary use by GSO FSS and FS in the 18.3-18.58 GHz band, and 220 megahertz to GSO FSS for primary use in the 18.58-18.8 GHz band.¹⁴

In adopting this band arrangement, the Commission stated that a total 720 megahertz of unshared GSO FSS downlink spectrum (the 18.58-18.8 GHz band along with the 19.7-20.2 GHz band), plus the flexible rules that permit sharing of 280 megahertz at 18.3-18.58 GHz, will enable each system to have ample spectrum and allow multiple systems to operate.¹⁵

6. VisionStar has applied for 1000 megahertz of downlink spectrum.¹⁶ In 1997, we authorized VisionStar to operate on 500 megahertz at 19.7-20.2 GHz.¹⁷ We stated, however, that we were not in a position, at that time, to grant its request for the remaining 500 megahertz of downlink spectrum given the

Report and Order, 15 FCC Rcd 13430 (2000) ("*18 GHz Report and Order*"), *petition for review pending, Teledesic LLC v. FCC*, D.C. Cir. No. 00-1466 (filed November 6, 2000).

¹¹ *VisionStar Authorization Order* at 1432-33, ¶ 13.

¹² See Letter from Michael R. Gardner to Thomas S. Tycz, Chief, Satellite and Radiocommunication Division (April 1, 1998).

¹³ See *18 GHz Report and Order*, 15 FCC Rcd 13430.

¹⁴ *Id.* at 13443 ¶ 28.

¹⁵ *Id.* at 13444 ¶ 30.

¹⁶ *VisionStar Authorization Order* at 1434, ¶ 18.

¹⁷ See *id.* at 1434, ¶ 19.

18 GHz band arrangement then in effect. The Commission, however, recently designated 500 megahertz of spectrum at 18.3-18.8 GHz for downlink GSO FSS operations.¹⁸ Consequently, on our own motion we authorize VisionStar to operate its satellite downlinks in the 18.3-18.8 GHz band in accordance with the *18 GHz Report and Order*.¹⁹

7. In addition, VisionStar must coordinate with the U.S. Government systems operating in the 17.7-18.8 GHz band in accordance with footnote US 334 to the Table of Frequency Allocations.²⁰ We note that Government GSO and NGSO FSS networks are presently operating in the 18.3-18.6 GHz and 19.7-20.2 GHz bands, and plan to operate in accordance with the power flux-density limits contained in the current ITU Radio Regulations.²¹ Additionally, we note that VisionStar must also comply with footnote US 255 to the Table of Frequency Allocations which contains power flux-density limits to protect the Earth exploration-satellite service (passive) for the 18.6-18.8 GHz band.²²

B. Compliance With Frequency Re-use Requirements

8. Upon further examination of VisionStar's original application, we conclude that VisionStar intends to employ orthogonal polarization as a means of frequency re-use for its Ka-band satellite, and therefore it is in full compliance with Section 25.210(e) of our rules.²³

IV. CONCLUSION

9. Accordingly, upon review, we modify VisionStar's Ka-band system license to assign additional downlink frequencies. This will allow VisionStar to provide a variety of advanced broadband communication services to businesses and consumers.

¹⁸ See *18 GHz Report and Order*, 15 FCC Rcd 13430.

¹⁹ *Id.*

²⁰ 47 C.F.R. § 2.106 US 334 (as revised in the *18 GHz Report and Order*, 15 FCC Rcd at 13489). This footnote requires coordination of non-Government systems with U.S. Government GSO and NGSO FSS systems in the 17.8-20.2 GHz band.

²¹ See *18 GHz Report and Order*, 15 FCC Rcd at 13473, ¶ 90. These power flux-density limits are -115/-105 dB (W/m²) in any 1 megahertz, depending upon the angle of arrival in the 18.3-18.6 GHz band. There are currently no power flux-density limits in the 19.7-20.2 GHz band. See Letter from William T. Hatch, NTIA to Dale Hatfield, Chief, Office of Engineering and Technology, FCC (March 29, 2000).

²² 47 C.F.R. § 2.106 US 255 (as revised in the *18 GHz Report and Order*, 15 FCC Rcd at 13489) states:

In addition to any other applicable limits, the power flux-density across the 200 MHz band 18.6-18.8 GHz produced at the surface of the Earth by emissions from a space station under assumed free-space propagation conditions shall not exceed -95 dB(W/m²) for all angles of arrival. This limit may be exceeded by up to 3 dB for no more than 5% of the time.

²³ 47 C.F.R. § 25.210 (e).

V. ORDERING CLAUSES

10. Accordingly, IT IS ORDERED that the license granted to VisionStar, Inc. by Order and Authorization, 13 FCC Rcd 1428 (1997) IS MODIFIED to assign an additional 500 MHz of spectrum for its downlink operations in the 18.3-18.8 GHz band in accordance with the Report and Order, *In the Matter of Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 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 Use*, Report and Order, 15 FCC Rcd 13430 (2000).

11. IT IS FURTHER ORDERED that VisionStar, Inc. must coordinate all of its Ka-band downlink operations with the U.S. government systems in accordance with footnote US 334 to the Table of Frequency Allocations, 47 C.F.R. § 2.106.

12. IT IS FURTHER ORDERED that VisionStar, Inc. is subject to all terms and conditions in its original Authorization Order, 13 FCC Rcd 1428 (1997), including the implementation milestones.

13. IT IS FURTHER ORDERED that VisionStar, Inc. is afforded thirty days from the date of the release of this order and authorization to decline this authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.

14. This Order is issued pursuant to Section 0.261 of the Commission's rule on delegations of authority, 47 C.F.R. § 0.261, and 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 30 days of the date of public notice of this Order (*see* 47 C.F.R. § 1.4(b)(2)).

FEDERAL COMMUNICATIONS COMMISSION

Donald Abelson
Chief, International Bureau