

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

In the Matter of Motorola, Inc. Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed-Satellite Service
File Nos. 163 through 166-SAT-P/LA-95 201-SAT-MISC-95

ORDER AND AUTHORIZATION

Adopted: January 30, 2001

Released: January 31, 2001

By the Chief, International Bureau:

I. INTRODUCTION

1. By this Order, we modify Motorola Inc.'s ("Motorola") 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. In particular, we authorize Motorola to operate inter-satellite service links ("ISLs") and specify downlink operating frequencies for satellite-to-user transmissions. In addition, we assign milestone requirements for construction, launch, and operation of the satellite system. This will ensure that Motorola will make timely progress toward launching its satellites and making its advanced broadband communication services widely available to businesses and consumers. Failure by Motorola to meet these deadlines will render this authorization null and void.

II. BACKGROUND

The Motorola License

2. In May 1997, as part of the first Ka-band processing round, the International Bureau ("Bureau") authorized Motorola to launch and operate a GSO satellite system to provide fixed-satellite

1 See In the Matter of Comm, Inc. Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed-Satellite Service, 12 FCC Rcd 23001 (1997) ("Motorola Authorization Order").

2 The term "Ka-band" 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.

3 ISLs are communication links between in-orbit satellites. ISLs operate in spectrum allocated to the inter-satellite service. International Telecommunication Union ("ITU") Radio Regulation S1.22.

services in the Ka-band.⁴ Motorola intends to use this system to provide residential and business communications that include telecommuting, education, medical information access, home shopping, information, and access to on-line services and the Internet. It also proposes to offer “bandwidth on demand,” which allows subscribers to pay for spectrum on an as-needed basis.⁵ The “Millennium” system consists of one satellite at each of four orbit locations.⁶ The *Motorola Authorization Order* permits Motorola to operate its 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.⁷ The *Motorola Authorization Order* did not include operating authority for inter-satellite link service, nor did it include additional downlink spectrum requested by Motorola.

Inter-Satellite Links

3. By employing ISLs, Motorola’s satellites will be able to communicate directly with each other, which, according to Motorola, will extend the coverage regions of satellite systems from different orbit locations. In its original application, Motorola, as well as several other applicants, proposed to use ISLs in portions of 59.5-60.5 GHz and 62.5-63.2 GHz frequency bands. When it authorized the Motorola system in 1997, the Bureau deferred assigning inter-satellite service (“ISS”) frequencies because none of its requested bands were suitable for inter-satellite link service.⁸

4. Specifically, spectrum in the 59.5-60.5 and 62.5-63.2 GHz bands are shared on a co-equal basis with U.S. Government operations, including ongoing operations in the inter-satellite and Earth exploration-satellite services. The National Telecommunications and Information Administration (“NTIA”) expressed concern regarding potential harmful interference between commercial ISL operations and these government services. In 1997, the United States presented proposals to the then-upcoming World Radiocommunication Conference (WRC-97) concerning ISL operations in the 54.25-59.3 GHz and 64.0-71.0 GHz bands.⁹ These proposals were designed to allow us to assign ISLs to all first-round Ka-band system applicants requesting them, while addressing NTIA’s interference concerns. In view of the

⁴ *Motorola Authorization Order*. On July 10, 1998, the Commission granted *pro forma* assignment of licenses from Comm, Inc. to Motorola, Inc. See Letter to Counsel for Motorola from Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, International Bureau (July 10, 1998). See also Letter from Counsel for Motorola to Chief, Satellite & Radiocommunication Division (dated July 22, 1998) reporting consummation of the assignment.

⁵ *Motorola Authorization Order*, 12 FCC Rcd 23001 at ¶ 3.

⁶ These are the 91° W.L., 87° W.L., 77° W.L., and 75° W.L. orbit locations.

⁷ *Motorola Authorization Order*, 12 FCC Rcd 23001 at ¶¶ 17 and 19.

⁸ *Id.* at ¶ 27.

⁹ See *United States Proposals for the Work of the [WRC-97] Conference*, Document USWRC-97.10-E, dated July 24, 1997, Proposals for Agenda Item 1.9.4.3, entitled “The Existing Frequency Allocations Near 60 GHz and, if Necessary, Their Respective Allocation, with a View to Protecting the Earth Exploration-Satellite (passive) Service Systems Operating in the Unique Oxygen Absorption Frequency Band from About 50 GHz to About 70 GHz. (A Consequential Allocation to the Inter-Satellite Service in the 65-71 GHz Bands) (JPDP 12).”

uncertainty surrounding this issue, we deferred awarding ISL frequencies pending the outcome of WRC-97.

5. The WRC-97, among other actions relating to ISLs, allocated an additional band at 64.0-71.0 GHz for ISLs for both non-geostationary orbit (“NGSO”) and GSO systems, including those operating in the FSS.¹⁰ In June 1998, the Bureau requested that each Ka-band FSS licensee requesting ISL spectrum update its ISL request in light of the actions taken at WRC-97.¹¹ In addition, the Bureau asked each licensee to provide the Bureau with the specific frequency bands on which it proposes to operate its ISL service and to coordinate its proposed frequency bands with the other Ka-band licensees before it presented its proposal to the Commission. In response, the GSO FSS Ka-band licensees submitted a report in October 1998 (hereinafter the “*GSO FSS Sharing Report*”), concluding that ISLs of the licensed GSO FSS systems could share the same frequencies with few constraints.¹²

6. At the same time, Teledesic, L.L.C. (“Teledesic”), the only NGSO licensee employing ISLs in the same frequency bands, also submitted a sharing report (hereinafter the “*Teledesic Sharing Report*”).¹³ The *Teledesic Sharing Report* concluded that Teledesic’s ISLs could operate on the same frequencies as the GSO FSS system ISLs, except for possible mutual interference in the limited case of GSO FSS networks using ISL links among satellites that are separated by 157 to 162 longitudinal degrees.

7. After reviewing the *GSO FSS Sharing Report*, the Bureau concluded that it needed additional information to support the report’s findings. Accordingly, the Bureau sent a letter to the parties, including Motorola, requesting a description of the ISL arrangement, including which satellites at which licensed orbital locations will communicate with each other through the ISLs, the amount of ISL spectrum required by each satellite, and the justification for the amount of the ISL spectrum requested.¹⁴ In its letter, the Bureau noted that there are additional requests from applicants requesting ISL spectrum in the 40 GHz band and that several of the applicants in the second Ka-band processing round also proposed systems using ISLs.¹⁵ To maximize the number of systems that can operate in the bands available for ISLs, the Bureau said it will only authorize first round Ka-band licensees for the specific amount of ISL spectrum actually required for ISL operations.

¹⁰ See Final Acts of the 1997 World Radiocommunication Conference, Geneva (1997); ITU Radio Regulations Article S5 (frequency allocations).

¹¹ See, e.g., Letter from Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, FCC to James M. Talens (June 10, 1998).

¹² *Sharing of Various Frequency Bands Allocated to the Inter-Satellite Service* (October 9, 1998). The study did not examine sharing between GSO and NGSO systems sharing the same ISL frequencies. See also Letter from James Talens to Magalie Roman Salas, Secretary, Federal Communications Commission (October 9, 1998), which described specific frequencies on which Motorola proposes to operate.

¹³ *Interference between Teledesic and GSO Inter-Satellite Links* (dated October 8, 1998).

¹⁴ See, e.g., Letter from Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, to Pantelis Michalopoulos (December 9, 1999).

¹⁵ These parties include four from the second Ka-band processing round and five from the 40 GHz processing round. The 40 GHz service links are in segments contained in the 36-51.4 GHz band.

8. In response, Motorola requests to use spectrum within the 65.0-71.0 GHz bands for ISLs.¹⁶ Motorola's design includes two ISL transmit channels and two ISL receive channels per satellite. Each ISL channel will have a bandwidth of 1 GHz in each direction, centered on frequencies spaced 3 GHz apart. Motorola's frequency re-use plan contemplates using each ISL channel on 3 or 4 different satellites.

Service Downlink Bands

9. In addition to the remaining issue regarding its ISL frequencies, there is also an outstanding issue regarding Motorola's satellite-to-user frequencies. In its original application, Motorola requested 750 MHz of spectrum at 18.55-18.8 GHz and 19.7-20.2 GHz for its service downlink transmissions.¹⁷ We authorized Motorola to operate on its requested 500 megahertz at 19.7-20.2 GHz. We did not, however, assign the 18.55-18.8 GHz to Motorola at that time. Because the Ka-band arrangement in effect at that time¹⁸ required GSO FSS operations in the 17.7-18.8 GHz band to be conducted on a co-primary basis with the terrestrial fixed-service ("FS"), we found it was premature to grant Motorola operating authority in any portion of this band.¹⁹ Rather, we directed Motorola to file a license modification application when it determined which 250 megahertz it wished to use in the 17.7-18.8 GHz band.²⁰ Since that time, the Commission has released the *18 GHz Report and Order*, which designates the 18.3-18.58 GHz band for GSO FSS use subject to coordination with other co-primary services and the 18.58-18.8 GHz and 19.7-20.2 GHz bands for exclusive GSO FSS use.²¹ Consequently, we are now in a position to assign additional downlink spectrum to Motorola.²²

III. DISCUSSION

A. *Inter-Satellite Service*

¹⁶ See Letter from James Talens to Magalie Roman Salas, Secretary, Federal Communications Commission (January 19, 2000).

¹⁷ *Motorola Authorization Order*, 12 FCC Rcd 23001 at ¶ 20.

¹⁸ See *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*, CC Docket No. 92-297, First Report and Order and Fourth Notice of Proposed Rulemaking, 11 FCC Rcd 19005 (1996).

¹⁹ *Motorola Authorization Order*, 12 FCC Rcd 23001 at ¶ 21.

²⁰ *Id.*

²¹ 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, 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).

²² We note that Motorola has filed an application in the second Ka-band processing round to add additional spectrum to its licensed first-round system.

10. Given the sharing studies done by the licensees and the actions taken at WRC-97, we can now assign specific ISL spectrum to Motorola's four satellites. First, the ISL sharing analyses performed by the GSO FSS licensees and Teledesic reasonably accommodate all of the first round licensees that requested ISLs. Second, the WRC-97 allocated Motorola's requested band at 65.0-71.0 GHz for ISLs for both NGSO and GSO systems operating in the FSS. Recognizing that this band was allocated on a co-primary basis for various Government services, NTIA suggested that implementing the WRC-97 allocations domestically would better accommodate existing Government and proposed non-Government satellite systems. Therefore, the Commission conducted a rulemaking proceeding to implement the WRC-97 Final Acts with respect to the 50.2-71.0 GHz frequency bands, specifically designating the 65.0-71.0 GHz band segment for non-Government ISL use.²³

11. As noted above, Motorola proposes to conduct ISL operations within the 65.0-71.0 GHz bands. According to Motorola, its Millennium system will consist of four satellites located at 91° W.L., 87° W.L., 77° W.L., and 75° W.L., with each satellite inter-connected to two adjacent satellites. Therefore, each satellite would require two ISL transmit channels and two ISL receive channels, a total of four ISL channels per satellite. Each ISL will be operated in full duplex mode using QPSK modulation, with a data rate as high as 1.244 Gbps. Given the data rate of 1.244 Gbps, the polarization, and the modulation scheme, a 1000 MHz bandwidth of ISL spectrum will be required to support the transmit and receive channels between any two satellites. Therefore, each satellite would require a total of 2000 MHz of spectrum for its ISL operation. With the polarization technique used by the Millennium system, each satellite will be capable of reusing the same frequency assignments at each orbital location.

12. Based on Motorola's representations, we find that it has demonstrated a need for 2000 megahertz of spectrum for ISLs. So as not to delay implementation of Motorola's system, we authorize Motorola to conduct ISL operations in the 66.0-67.0 GHz and 69.0-70.0 GHz bands subject to coordination among the licensees pursuant to the *GSO FSS Sharing Report* and the *Teledesic Sharing Report*, and with U.S. Government (non-ISL) operations through NTIA's Interdepartment Radio Advisory Committee's Frequency Assignment Subcommittee. If Motorola prefers to operate on a different 2000 MHz of spectrum within its requested 65.0-71.0 GHz band, it may file a request for license modification.

B. Service Downlink Bands

13. Recently, the Commission adopted rules for the deployment of services in the 17.7-20.2 GHz band ("18 GHz band").²⁴ 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

²³ See *Amendment of Part 2 of the Commission's Rules to Allocate Additional Spectrum to the Inter-Satellite, Fixed, and Mobile Services and to Permit Unlicensed Devices to Use Certain Segments in the 50.2-50.4 GHz and 51.4-71.0 GHz Bands*, ET Docket No. 99-261, Report and Order, FCC 00-442, at ¶ 45 (rel. December 22, 2000).

²⁴ See *18 GHz Report and Order*, 15 FCC Rcd 13430.

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.²⁵ 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.²⁶

14. In its application, Motorola requested 750 megahertz of downlink spectrum at the 18.55-18.8 GHz and 19.7-20.2 GHz band.²⁷ We authorized Motorola to operate using 500 megahertz in the 19.7-20.2 GHz frequency range.²⁸ We are now in a position to grant Motorola its requested additional 250 megahertz of downlink spectrum at the 18.55-18.8 GHz band.²⁹ The Commission recently designated 220 megahertz at 18.58-18.8 GHz to GSO FSS for primary use.³⁰ The remaining 30 megahertz of spectrum Motorola requests at 18.55-18.8 GHz is available for shared use with the FS.³¹ Grant of the additional 250 megahertz of downlink spectrum is consistent with the revised 18 GHz band arrangement. We therefore authorize Motorola to operate service downlinks in the 18.55-18.8 GHz band, in addition to the previously authorized 19.7-20.2 GHz band. Operations in the shared 30 megahertz at 18.55-18.58 GHz are, of course, subject to the sharing rules adopted in the *18 GHz Report and Order*.³²

15. In addition, Motorola must coordinate with the U.S. Government systems operating in the 17.7-18.8 GHz and 19.7-20.2 GHz bands in accordance with footnote US 334 to the Table of Frequency Allocations.³³ 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.³⁴ Additionally, we note that Motorola must also comply with footnote US 255 to the Table of Frequency Allocations which contains additional power flux-density limits

²⁵ *Id.* at ¶ 28.

²⁶ *Id.* at ¶ 30.

²⁷ *Motorola Authorization Order*, 12 FCC Rcd 23001 at ¶ 20.

²⁸ *Id.* at ¶ 19.

²⁹ *See id.* at ¶ 21.

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

³¹ *Id.* at ¶ 28.

³² *Id.* at ¶¶ 34-49.

³³ 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.

³⁴ *See 18 GHz Report and Order*, 15 FCC Rcd at 13473 ¶ 90. These power flux-density limits in the 18.3-18.6 GHz band are -115/-105 dB (W/m²) in any 1 megahertz, depending upon the angle of arrival. 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).

in the 18.6-18.8 GHz bands to protect the Earth exploration-satellite service (passive) operating in that band.³⁵

C. *Milestones*

16. As noted above, when we granted Motorola its license in 1997, we were not in a position to assign it to a specific range of ISL frequencies. Consequently, we did not require Motorola to begin building its satellite system by including implementation milestones in its license. We did, however, state that we would impose a strict milestone schedule once ISL frequencies were authorized.

17. In authorizing ISL frequencies in this Order, we are now in a position to impose system implementation milestones as a condition of Motorola's modified license. As in all other satellite services, Ka-band licensees are required to adhere to a strict timetable for system implementation. Requiring licensees to adhere to implementation deadlines prevents the valuable orbit-spectrum resource from being held indefinitely by licensees who are unable or unwilling to proceed with their plans. Specifically, Section 25.145(f) of the Commission's rules requires Ka-band GSO FSS licensees "[1] to begin construction of its first satellite within one year of grant, [2] to begin construction of the remainder within two years of grant, [3] to launch at least one satellite into each of its assigned orbit locations within five years of grant, and [4] to launch the remainder of its satellites by the date required by the International Telecommunication Union [ITU] to assure international recognition and protection of those satellites."³⁶ Failure to meet any of these construction milestones will render those satellite authorizations null and void.

18. The date by which the Motorola licensed satellites must be "brought into use" to protect the date priority of the U.S. ITU filings for its service links is June 25, 2005.³⁷ We recognize that, in this case, applying these ITU "bringing into use" dates to the last implementation milestone has the incongruous result of our rules requiring Motorola to launch one satellite into each of its assigned orbit locations by

³⁵ 47 C.F.R. § 2.106 US 255 (as revised in the *18 GHz Report and Order*, 15 FCC Rcd 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.

³⁶ 47 C.F.R. § 25.145(f). *See also 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*, CC Docket No. 92-297, Third Report and Order, 12 FCC Rcd 22310, 22334-35 ¶ 61 & n.77 (1997).

³⁷ The exact date is nine years after the date the ITU publishes the Advanced Publication Information for the concerned frequency assignment at each orbit location. *See* ITU Radio Regulations S.11.44, as modified by Final Acts of the 2000 World Radiocommunication Conference, Istanbul (2000). Thus, the ITU Radio Regulations require that:

the USA satellite advanced published at 91° W.L. be brought into use by June 25, 2005;
the USA satellite advanced published at 87° W.L. be brought into use by June 25, 2005;
the USA satellite advanced published at 77° W.L. be brought into use by June 25, 2005; and
the USA satellite advanced published at 75° W.L. be brought into use by June 25, 2005

January 2006, *i.e.*, after the date Motorola is required to bring *all* of its satellite locations “into use” to protect the date priority of the U.S. ITU filings for its orbital locations. To address this misalignment, we require Motorola to launch a satellite to each licensed orbit location which “brings into use” all of the frequency assignments it plans to operate at that orbit location by the June 2005 date. This will protect the United States’ and thus, Motorola’s ability to coordinate and gain international recognition for satellites at each of its assigned orbit locations. Moreover, we do not anticipate that meeting this milestone will present undue difficulties. First, it is consistent with Motorola’s business plan. Second, Motorola has had almost four years since we granted its license in May 1997 to finalize its system design for everything except its ISLs. Third, the launch milestone imposed here still provides Motorola with more than four years to incorporate ISLs into its system and launch the satellites. In light the actions taken at WRC-97 regarding ISLs and the licensees’ 1998 studies demonstrating they can share ISL spectrum, we expect that Motorola will have already made significant progress in incorporating its requested ISL frequencies into its system.

D. Miscellaneous Matters

19. In 1996, the Bureau declared Norris Satellite Communications, Inc.’s (“Norris”) license to operate a GSO FSS Ka-band satellite at the 90° W.L. orbital location null and void for non-compliance with satellite construction milestones.³⁸ While Norris’s Application for Review of this decision was pending, Norris filed a Petition for Reconsideration of the *Motorola Authorization Order* with regard to Motorola’s assignment to 91° W.L.³⁹ Specifically, Norris claimed that authorizing Motorola at the 91° W.L. orbital location was mutually exclusive with Norris’s 90° W.L. authorization. The Commission subsequently upheld the Bureau’s decision regarding nullification of Norris’s license.⁴⁰ Accordingly, we dismiss Norris’s Petition for Reconsideration as moot.

IV. CONCLUSION

20. Accordingly, upon review, we modify Motorola’s Ka-band system license to include ISL frequencies and additional downlink frequencies. In addition, we assign milestone requirements for construction, launch and operation of the satellite system. These actions provide Motorola with the opportunity to provide a variety of advanced broadband communications services to businesses and consumers.

V. ORDERING CLAUSES

³⁸ *Norris Satellite Communications, Inc.*, Order, 11 FCC Rcd 5402 (Int’l Bur. 1996).

³⁹ *See Norris Satellite Communications, Inc. Petition for Reconsideration in the Matter of Comm, Inc. and Orion Network Systems, Inc.*, File Nos. 163/164/165/166-SAT-P/LA-95, 201 SAT-MISC-95; 195/196/197-SAT-P/LA-95, 205-SAT-AMEND-95 (filed June 9, 1997); *Opposition to Petition for Reconsideration of Comm, Inc./Motorola* (filed June 24, 1997).

⁴⁰ *Norris Satellite Communications, Inc.*, Memorandum Opinion and Order, 12 FCC Rcd 22299 (1997).

21. Accordingly, IT IS ORDERED that the license granted to Motorola, Inc. by Order and Authorization, 12 FCC Rcd 23001 (1997) IS MODIFIED to assign the 66.0-67.0 GHz and 69.0-70.0 GHz bands for inter-satellite link operations, in accordance with *Amendment of Part 2 of the Commission's Rules to Allocate Additional Spectrum to the Inter-Satellite, Fixed, and Mobile Services and to Permit Unlicensed Devices to Use Certain Segments in the 50.2-50.4 GHz and 51.4-71.0 GHz Bands*, ET Docket No. 99-261, Report and Order, FCC 00-442 (rel. December 22, 2000).

22. IT IS FURTHER ORDERED that Motorola, Inc. must coordinate its inter-satellite link operations in accordance with the reports submitted to the Commission entitled, "Sharing of Various Frequency Bands Allocated to the Inter-Satellite Service" (October 9, 1998) and "Interference Between Teledesic and GSO Inter-Satellite Links" (October 9, 1998), with the other Ka-band licensees that are included in the referenced reports.

23. IT IS FURTHER ORDERED that Motorola, Inc. is authorized for an additional 250 MHz for its downlink operations in the 18.58-18.8 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).

25. IT IS FURTHER ORDERED that, Motorola, Inc shall coordinate the inter-satellite link operations in the 66.0-67.0 GHz and 69.0-70.0 GHz bands through NTIA's Interdepartment Radio Advisory Committee's Frequency Assignment Subcommittee.

26. IT IS FURTHER ORDERED that Motorola, 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.

27. IT IS FURTHER ORDERED that Motorola, Inc.'s authorization shall become NULL and VOID with no further action on the Commission's part in the event the space station is not constructed, launched, and placed into operation in accordance with the technical parameters and terms and conditions of the authorization by the following dates:

	<u>Commence Construction</u>
First Satellite	January 2002
Remaining Satellites	January 2003
	<u>Launch and Operate</u>
Satellite licensed at 91° W.L.	June 25, 2005
Satellite licensed at 87° W.L.	June 25, 2005
Satellite licensed at 77° W.L.	June 25, 2005
Satellite licensed at 75° E.L.	June 25, 2005

28. IT IS FURTHER ORDERED that Motorola, Inc. is subject to all terms and conditions in its original *Authorization Order*, 12 FCC Rcd 23001 (1997).

29. IT IS FURTHER ORDERED that the license term for a space station is ten years and that

each license will begin to run on the date Motorola, Inc. certifies to the Commission that a satellite has been successfully placed into orbit and the operations fully conform to the terms and conditions of this authorization.

30. IT IS FURTHER ORDERED that Motorola, 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.

31. IT IS FURTHER ORDERED that the Petition for Reconsideration filed June 7, 1997 by Norris Satellite Communications, Inc. IS DISMISSED as moot.

32. 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