

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

In the Matter of	)	
	)	
<b>Pegasus Development Corporation</b>	)	File Nos. 95-99-SAT-P/LA-98;
	)	Call Signs S2350-S2354
	)	IBFS File Nos. SAT-LOA-19980403-00025-
	)	29
Application for Authority to Construct, Launch, and Operate a Ka-Band Satellite System in the Fixed-Satellite Service	)	

### ORDER AND AUTHORIZATION

**Adopted: August 2, 2001**

**Released: August 3, 2001**

By the Chief, International Bureau:

#### I. INTRODUCTION

1. By this Order, we authorize Pegasus Development Corporation ("Pegasus") to launch and operate a satellite system in geostationary-satellite orbit to provide fixed-satellite services in the Ka-band.<sup>1</sup> In a companion order, issued today, we assign Pegasus's satellites to the 117° W.L., 107° W.L., 43° W.L., 28° E.L., and 107.5° E.L. orbit locations.<sup>2</sup> This will allow Pegasus an opportunity to provide consumers access to a variety of competitive satellite communications services in a frequency band suitable for advanced broadband, interactive services.

#### II. BACKGROUND

2. Pegasus is one of 12 applicants seeking authority to operate geostationary satellite orbit ("GSO") satellites in the second Ka-band processing round. In May 1997, the International Bureau licensed 13 applicants to launch and operate GSO satellite systems as part of the first Ka-band processing round ("First Round").<sup>3</sup> In October 1997, the Bureau established a second processing round ("Second Round"), inviting interested parties to file applications on or before December 22, 1997 for consideration in this round. The Second Round GSO licenses, and in one case, reservation of orbit locations for a non-U.S. licensed satellite system, will enable new entrants to offer competitive services to those licensed in the First Round and will allow First Round licensees an opportunity to expand and improve the

<sup>1</sup> For purposes of this Order, the terms "Ka-band" or "28 GHz band" refer to the space-to-Earth communications (downlink) in radio frequencies at 17.7-20.2 GHz and the corresponding Earth-to space communications (uplink) in frequencies at 27.5-30.0 GHz. We authorize to operate in a portion of these frequency bands indicated in this Order.

<sup>2</sup> *In the Matter of Second Round Assignment of Geostationary Satellite Orbit Locations to Fixed Satellite Service Space Stations in the Ka-Band*, Order, DA 01-1693 (Int'l Bur. rel. August 3, 2001) ("Second Round GSO Assignment Order").

<sup>3</sup> The Bureau also licensed one non-geostationary-satellite orbit ("NGSO") Ka-band system. See *Teledesic Corporation, Application for Authority to Construct, Launch and Operate a Low Earth Orbit Satellite System in the Domestic and International Fixed Satellite Service*, Order and Authorization, 12 FCC Rcd 3154 (Int'l Bur. 1997).

capabilities and service offerings of their licensed systems.

3. Pegasus is a wholly-owned subsidiary of Pegasus Communications Corporation. Pegasus proposes to provide a broad range of multimedia services, consisting primarily of wide-band, high-speed data worldwide, on a non-common carrier basis, consisting of ten technically identical satellites at five inter-linked orbital positions.<sup>4</sup> In its application, Pegasus proposes two satellites at each of the following orbital positions: 93° W.L., 103° W.L., 69° W.L., 26.2° E.L., and 99° E.L.<sup>5</sup>

4. Pegasus proposes to use spectrum in the 28.35-28.6 GHz and 29.5-30.0 GHz frequency bands for uplink (Earth-to-space) communications.<sup>6</sup> Pegasus proposes to use spectrum in the 18.35-18.6 GHz and 19.7-20.2 GHz frequency bands for downlink (space-to-Earth) communications.<sup>7</sup> Pegasus also requests authority to conduct its tracking, telemetry, and command operations during transfer-orbit in the Ku-band and for on-orbit operations in the Ka-band frequencies at 29.2 GHz for command and 19.3 GHz for telemetry.<sup>8</sup> Pegasus informs the Commission that it also intends to operate inter-satellite links in the 65-71 GHz band.<sup>9</sup>

5. Several Second Round Ka-band applicants filed petitions to deny Pegasus's application.<sup>10</sup> These filings relate to three issues: choice of orbital locations, financial qualifications, and operation consistent with the Commission's two-degree spacing policy.<sup>11</sup>

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<sup>4</sup> Application of Pegasus Development Corporation for Authority to Launch and Operate a Communications Satellite System ("Pegasus Application"), filed December 22, 1997, at pp. 1-2. Pegasus's original application was returned due to an insufficient fee being submitted. Pegasus refiled the same application on January 23, 1998 along with a request for reinstatement of its application.

<sup>5</sup> Pegasus also supplied a range of longitudes for acceptable alternative orbit locations. Pegasus Application at pp. 7-8. Since filing its application, Pegasus has supplied the Commission with criteria for alternate orbit locations that would meet its system's requirements. Pegasus requests that its orbital locations be: (a) no more than 16 degrees apart, (b) within 14 degrees of 101°W.L., (c) no further east than 85°W.L, and (d) no further west than 115°W.L. , with 91°W.L. being an ideal location for its purposes. *See e.g.*, Pegasus Development Corporation Ex Parte, filed May 18, 2001.

<sup>6</sup> Pegasus Application at pp 16-17.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.* at p. 10. *See also* Letter from Bruce D. Jacobs and Tony Lin, counsel to Pegasus, to Magalie Salas, Office of the Secretary, F.C.C., captioned *Clarification of Pegasus Application*, dated June 22, 2001 ("*Pegasus Clarification Letter*"), clarifying several of the technical parameters reflected in Pegasus's application.

<sup>9</sup> *Id.* at ¶ 2.5 Pegasus indicates that optical links may also be used. *Id.* at p. 9. *See also Pegasus Clarification Letter* dated June 22, 2001.

<sup>10</sup> Motorola's Consolidated Petition to Deny and Comments, filed May 21, 1999 ("*Motorola Petition*"); Pacific Century Group, Inc., Petition To Deny Or Condition Grant Of Authorizations, filed May 21, 1999 ("*PCG Petition*"), Consolidated Petitions to Dismiss, Deny, or Defer of Hughes Communications Galaxy, Inc. and Hughes Communications, Inc. filed May 21, 1999 ("*Hughes Petition*"); Comments of Loral Space and Communications, Ltd., filed May 21, 1999, ("*Loral Comments*").

<sup>11</sup> All issues pertaining to the assignment of orbit locations, financial qualifications, and two-degree spacing are addressed in the *Second Round GSO Assignment Order* released today.

### III. DISCUSSION

#### A. Qualifications

6. All applicants requesting authority to launch and operate satellite space stations must present information sufficient to establish their legal, technical, and financial qualifications to hold a Commission license. The rules set forth in Part 25 of the Commission's rules govern fixed-satellite service ("FSS") applicants and licensees, including this application for geostationary satellite orbit GSO FSS in the Ka-band frequencies. The Commission modified the Part 25 FSS rules in 1997 to incorporate particular technical requirements for operations in the Ka-band frequencies.<sup>12</sup> In this and other licenses issued to Second Round FSS applicants in the Ka-band, we will generally apply all Part 25 FSS rules, specifically noting, however, where we decide not to apply existing rules.

#### 1. Number of Orbit Locations

7. The Commission's Part 25 FSS rules include a limit on the number of orbit locations that may initially be assigned to a qualified GSO FSS applicant.<sup>13</sup> The rules also limit the number of additional, expansion orbit locations that may be assigned to applicants with previously licensed systems using the same frequency bands.<sup>14</sup> 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.<sup>15</sup> The Commission waived the assignment limit rules in the first Ka-band GSO FSS round because the applicants had agreed to an arrangement that accommodated all pending applications for space stations and left room for additional assignments.<sup>16</sup> In this Second Round, we have determined that we can also accommodate all pending requests for space stations with room for additional entry. We therefore again waive application of the Commission rule limiting GSO FSS orbit locations.<sup>17</sup> Consequently, we will not, as some applicants request, limit the number of assignments to Second Round applicants.

#### 2. Technical Qualifications

8. Applicants for FSS space station authorizations must meet the technical qualification requirements set forth in the Commission's Part 25 rules. These requirements are designed primarily to implement two-degree orbital spacing between GSO FSS satellites. The Commission's two-degree spacing policy, which was established in 1983, was designed to maximize the number of satellites in orbit by ensuring that satellites in geostationary-satellite orbit can operate without causing harmful interference to other GSO satellites located as close as two degrees.<sup>18</sup>

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<sup>12</sup> *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 ("Ka-Band FSS Rules Order")*, Third Report and Order, FCC 97-378, 12 FCC Rcd 22310 (1997). *Memorandum Opinion and Order*, FCC 01-172 (rel. May 25, 2001) (order on petitions for clarification or reconsideration).

<sup>13</sup> 47 C.F.R. § 25.140(e).

<sup>14</sup> 47 C.F.R. § 25.140(f).

<sup>15</sup> *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

<sup>16</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22320 ¶ 24.

<sup>17</sup> For a more detailed discussion, see *Second Round GSO Assignment Order*, DA 01-1693, at ¶ 17.

<sup>18</sup> *Licensing of Space Stations in the Domestic Fixed-Satellite Service*, 54 Rad. Reg. 2d (P&F) 577, 589 (1983) (*Two-Degree Spacing Order*).

9. In the *Ka-Band FSS Rules Order*, the Commission adopted its proposal to extend its two-degree spacing policy between in-orbit satellites to space stations in the Ka-band.<sup>19</sup> We believe that it remains in the public interest to maximize the number of satellites that can be accommodated in orbit by extending the Commission's existing two-degree GSO spacing policy to Ka-band orbital assignments in the Second Round. All GSO FSS licensees in the Second Round will therefore be required to be two-degree GSO spacing compliant.

10. Pegasus indicates that its system design is consistent with operation in a two-degree spacing environment.<sup>20</sup> Our review of Pegasus's application finds nothing to preclude operation in a two-degree spacing environment. The Second Round Ka-band applications were received subsequent to the *Ka-Band FSS Rules Order* but prior to the *18 GHz Band Report and Order*.<sup>21</sup> In both orders, rules affecting two-degree orbital spacing were adopted. We remind Pegasus of its continuing obligation to meet all Part 25 rules governing system operations, including Sections 25.202 (frequencies, frequency tolerances, and emission limitations) and 25.210 (technical requirements for space stations in the fixed-satellite service).<sup>22</sup> Further, Pegasus must meet the current Ka-band power-flux density ("pfd") limits of both footnote US255 to Section 2.106 and Section 25.208,<sup>23</sup> that were adopted after Pegasus filed its application. As a condition of this authorization, Pegasus must meet these revised pfd limits.

### 3. Financial Qualifications

11. The Commission's FSS rules require that an applicant for a new fixed-satellite system possess sufficient financial resources to cover the construction, launch, and first-year operating costs of each proposed satellite.<sup>24</sup> We have waived these rules, however, in those cases where we can accommodate all pending applications. The Commission's financial qualification rules are designed to prevent under-capitalized licensees from holding valuable orbit spectrum resources to the exclusion of others while they attempt to arrange financing to construct and launch the licensed system.<sup>25</sup> Where all applicants can be accommodated, however, granting a license to an under-capitalized applicant will not prevent another applicant from going forward.<sup>26</sup> In addition, there is a pro-competition public interest benefit in licensing all applicants, if possible. We waived the financial qualification rules for the First Round applicants because all of those applicants could be accommodated in the available orbital locations and there were additional orbital locations available for future entrants.<sup>27</sup> In the accompanying *Second*

<sup>19</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22320 ¶ 23.

<sup>20</sup> Pegasus Application at ¶ 2.6.1

<sup>21</sup> *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 ("18 GHz Band Report and Order")*, FCC 00-212, 15 FCC Rcd 13,430 (2000).

<sup>22</sup> 47 C.F.R. §§ 25.202 and 25.210.

<sup>23</sup> 47 C.F.R. §§ 2.106 S255 and 25.208.

<sup>24</sup> 47 C.F.R. § 25.140(b)-(e).

<sup>25</sup> See generally *Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626/2483.5-2500 MHz Frequency Bands, Report and Order*, 9 FCC Rcd 5936, 5948 ¶ 26 (1994) ("*Big LEO Report and Order*").

<sup>26</sup> *Id.*

<sup>27</sup> See *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22318 ¶ 18.

*Round GSO Assignment Order*, we also determine that we can accommodate all pending Second Round applicants' requests for GSO FSS space stations in the Ka-band, and still have some orbital locations available for future entrants. We therefore waive the financial qualification requirements for Second Round applicants. Consequently, it is unnecessary to rule on Pegasus's financial qualifications. The petitions to deny filed by Motorola and Hughes raising issues regarding Pegasus's financial qualifications are therefore moot.

## B. Spectrum Assignments

### 1. Service Links

12. In the *28 GHz Band First Report and Order*, the Commission adopted a band segmentation plan that designated one gigahertz of spectrum in each transmission direction for GSO FSS Ka-band systems.<sup>28</sup> For uplink (Earth-to-space) transmissions, the Commission designated 250 megahertz of spectrum between 28.35 and 28.6 GHz, 250 megahertz of spectrum between 29.25 and 29.5 GHz (shared on a co-primary basis with non-geostationary satellite orbit, mobile satellite service feeder links), and 500 megahertz of spectrum between 29.5 and 30.0 GHz for GSO FSS operations. For downlink (space-to-Earth) communications the Commission designated 1100 megahertz of spectrum between 17.7 and 18.8 GHz for GSO FSS operations (shared on a co-primary basis with terrestrial fixed-service) and 500 megahertz of spectrum between 19.7 and 20.2 GHz for primary GSO FSS operations. The Commission later refined the downlink plan for the frequency band between 17.7 and 18.8 GHz, by designating 280 megahertz of spectrum between 18.3 and 18.58 GHz for co-primary GSO FSS and terrestrial-fixed operations and 220 megahertz of spectrum between 18.58 and 18.8 GHz for primary GSO FSS operations.<sup>29</sup>

13. In its application, Pegasus proposes to use 750 megahertz of spectrum at the 28.35-28.6 GHz and 29.5-30.0 GHz frequency bands for its service uplinks.<sup>30</sup> We grant this request consistent with the 28 GHz band plan, and we will therefore authorize Pegasus to operate in these frequencies, subject to the sharing rules adopted in the *28 GHz Band First Report and Order*.

14. In its application, Pegasus proposes to use 750 megahertz of spectrum at the 18.35-18.6 GHz and 19.7-20.2 GHz frequency bands for its service downlink bands. We grant this request consistent with the *18 GHz band plan*.<sup>31</sup> Specifically, we authorize Pegasus to operate its service downlinks in 750 megahertz of spectrum in the 18.35-18.6 GHz and 19.7-20.2 GHz frequency bands. Because the 230

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<sup>28</sup> *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*, FCC 96-311, 11 FCC Rcd 19005 (1996) ("*28 GHz Band First Report and Order*").

<sup>29</sup> *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 (18 GHz Band Report and Order)*, FCC 00-212, 15 FCC Rcd 13430 (rel. June 22, 2000). Stations operating in primary services are protected against interference from stations of "secondary" services. Moreover, stations operating in a secondary service cannot claim protection from harmful interference from stations of a primary service. "Co-Primary" services have equal rights to operate in particular frequencies. See 47 C.F.R. §§ 2.104(d) and 2.105(c).

<sup>30</sup> Pegasus Application at p. 17.

<sup>31</sup> See *28 GHz Band First Report and Order*, 11 FCC Rcd 19005, as modified in *18 GHz Band Report and Order*, 15 FCC Rcd at 13443, ¶ 28.

megahertz of spectrum at 18.35-18.58 GHz is to be shared on a co-primary basis with terrestrial-fixed services, GSO FSS operations in this band must be coordinated with these terrestrial operations.

15. In addition, Pegasus must coordinate with U.S. Government systems in accordance with footnote US334 to the Table of Frequency Allocations.<sup>32</sup> This footnote requires coordination of commercial systems with U.S. Government GSO and NGSO FSS systems that are presently operating throughout the 17.8-20.2 GHz frequency band. These Government systems operate in accordance with the power flux-density limits contained in the current International Telecommunication Union ("ITU") Radio Regulations.<sup>33</sup> Pegasus must also comply with Footnote US255 to the Table of Frequency Allocations that contains power flux-density limits to protect the Earth exploration satellite service (passive) for the 18.6-18.8 GHz band.<sup>34</sup>

## 2. Inter-Satellite Links

16. Pegasus proposes to use inter-satellite links ("ISLs") between adjacent satellites to provide connectivity between coverage regions of different satellite orbit locations.<sup>35</sup> This will avoid the need for double-hop connectivity and increase system level reliability. Pegasus's proposed satellite system will consist of ten inter-connected satellites located at five different orbital locations (two satellites at each of the five orbital locations).<sup>36</sup> Each satellite will be equipped with 30 transponders<sup>37</sup> for its service links resulting in 30 beams in each direction.<sup>38</sup> Each beam will support a data rate as high as 65 Mbps.<sup>39</sup> With the use of dual polarization, each satellite within the system will be capable of re-using the same spectrum. Pegasus proposes to use 2000 megahertz of spectrum within the 65.0-71.0 GHz band for ISL communications.<sup>40</sup> Based on Pegasus representations, we find that it has demonstrated a need for 2000 megahertz of ISL spectrum. Sharing studies done by the First Round Ka-Band licensees concluded that those applicants could share the ISL spectrum with minimal constraints. We expect the same conclusion

<sup>32</sup> See 47 C.F.R. § 2.106 US334.

<sup>33</sup> See *18 GHz Report and Order*, 15 FCC Rcd at 13473 ¶ 90. The power flux-density limits in the 18.3-18.6 GHz band are -115/-105 dB (W/m<sup>2</sup>) in any one megahertz band, 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, National Telecommunications and Information Administration, to Dale Hatfield, Chief, Office of Engineering and Technology, Federal Communications Commission (March 29, 2000).

<sup>34</sup> 47 C.F.R Section 2.106 US 255 (as revised in the *18 GHz Band 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 -95db(W/m<sup>2</sup>) for all angles of arrival. This limit may be exceeded by up to 3 dB for no more than 5% of the time.

<sup>35</sup> ISLs are communication links between in-orbit satellites. ISLs operate in spectrum allocated to the inter-satellite service. See International Telecommunication Union Radio Regulation S1.22. Pegasus advises the Commission that it may also use optical links. Pegasus Application at p. 9.

<sup>36</sup> See Pegasus Application at p. 2.

<sup>37</sup> A transponder is a combination of receivers, filters, frequency converters, and transmitters to form a signal repeater.

<sup>38</sup> See Pegasus Application at p. 27.

<sup>39</sup> See Pegasus Clarification Letter dated June 22, 2001

<sup>40</sup> *Id.*

to be reached by Second Round applicants.<sup>41</sup> Consequently, we will authorize Pegasus to conduct ISL operations in 2000 megahertz of spectrum within the 65.0-71.0 GHz band, subject to coordination with the First and Second Round ISL licensees, and with U.S. Government (non-ISL) operations through National Telecommunications and Information Administration ("NTIA")'s Interdepartment Radio Advisory Committee's Frequency Assignment Subcommittee. Within 30 days after the release of this Order, Pegasus must inform the Commission which specific spectrum it has chosen for ISL operations.

### 3. Tracking, Telemetry and Command

17. Under the Commission's rules, tracking, telemetry, and command ("TT&C") operations may be provided at the edges of the frequency bands in which the particular satellite will be providing service.<sup>42</sup> Pegasus proposes to conduct its on orbit TT&C operations in two megahertz of spectrum each for both command and telemetry at the upper and lower edges of the Ka-band at 29.2 GHz and 19.3 GHz, respectively.<sup>43</sup> We authorize Pegasus to conduct TT&C operations in these service bands.

18. Pegasus also requests authority to conduct TT&C operations outside its Ka-band service frequencies. Pegasus proposes to conduct its TT&C operations during transfer orbit maneuvers in the Ku-band GHz in 2 megahertz of spectrum each for both command and telemetry at 14.0-14.5 GHz and 11.7-12.2 GHz bands, respectively.<sup>44</sup> All of these requested operations are within the Ku-band frequencies, which are not the system's service band. Thus, the request is not consistent with Section 25.202 of the rules.<sup>45</sup> As the Commission recently indicated, this rule serves the valid purpose of simplifying coordination among satellites at adjacent orbital locations, and promoting efficient spectrum use.<sup>46</sup> Pegasus has not provided a showing to demonstrate that waiver of Section 25.202(g) for TT&C operations outside its service band would be consistent with the basic purpose of the rule, or that the public interest otherwise requires a waiver. Thus we deny Pegasus's request.

### C. Regulatory Treatment

19. In the *DISCO I Order*, the Commission determined that all fixed-satellite service operators in the C-band and Ku-band could elect to operate on a common carrier or non-common carrier basis.<sup>47</sup> The Commission extended this treatment to satellite operators in the Ka-band in the *Ka-Band FSS Rules*

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<sup>41</sup> For a detailed discussion of spectrum available for ISL operations, see *Amendment of Part 2 of the Commission's Rules to Allocate Additional Spectrum to the Inter-Satellite, Fixed, and Mobile Services*, ET Docket No. 99-261, Report and Order, FCC 00-442, at ¶ 45 (rel. Dec. 22, 2000).

<sup>42</sup> 47 C.F.R. § 25.202(g).

<sup>43</sup> Pegasus Application at p. 2 and Figure 2.6. See also Pegasus Clarification Letter, dated June 22, 2001.

<sup>44</sup> *Id.*

<sup>45</sup> See *Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band*, FCC 00-363 15 FCC Rcd 20488, 20538 ¶ 129 (2000) (the rule "effectively limits FSS operators to operating TT&C links in the same frequency bands as their FSS operations").

<sup>46</sup> *Id.* at ¶¶ 129-130.

<sup>47</sup> See *In the Matter of Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems and DBSC Petition for Declaratory Rulemaking Regarding the Use of Transponders to Provide International DBS Service*, 11 FCC Rcd 2429, 2436 (1996) (*DISCO I Order*).

*Order*.<sup>48</sup> Consequently, Second Round Ka-band applicants may elect their regulatory status. Pegasus has elected to operate on a non-common carrier basis,<sup>49</sup> and we will authorize it to do so.

#### D. License Conditions

##### 1. Milestone Schedule

20. As in all other satellite services, all Second Round Ka-band licensees will be required to adhere to a strict timetable for system implementation. This ensures that licensees are building their systems in a timely manner and that the orbit-spectrum resource is not being held by licensees unable or unwilling to proceed with their plans. The implementation schedules for GSO FSS systems in the Ka-band will generally track the schedules imposed in other satellite services.

21. Specifically, Section 25.145(f) of the Commission's rules requires Ka-band GSO FSS licensees "[1] to begin construction of [their] 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 [their] assigned orbit locations within five years of grant, and [4] to launch the remainder of [their] satellites by the date required by the International Telecommunication Union to assure international recognition and protection of those satellites."<sup>50</sup> Failure to meet any of these construction milestones will render those satellite authorizations null and void without further action by the Commission.

22. The dates by which Pegasus's satellites must be "brought into use" to protect the date priority of the U.S. ITU filings for its service links at these orbital locations are in March 9, 2003 – with a two-year extension available under certain circumstances, July 2, 2005, July 16, 2005, and July 23, 2005.<sup>51</sup>

<sup>48</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22333-34 ¶¶ 58-60.

<sup>49</sup> Pegasus Application at pp. 44-45.

<sup>50</sup> 47 C.F.R. § 25.145(f). See *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22334-35 ¶ 61 & n.77.

<sup>51</sup> Specifically, the satellite at 117° W.L. must be brought into use by July 2, 2005; the satellite at 107° W.L. must be brought into use by March 9, 2003, the satellite at 43° W.L. must be brought into use by July 23, 2005, the satellite at 28° E.L. must be brought into use by July 2, 2005, and the satellite at 107.5° E.L. must be brought into use by July 16, 2005. With regard to the 107° W.L. orbital location, ITU Radio Regulations require that the satellite be "brought-into-use" (BIU) no later than five years after ITU receipt of advance publication information (ITU Radio Regulations Article S11.44). The ITU may extend the BIU date by two years under the conditions specified in ITU Radio Regulations Articles S11.44B through S11.44I (launch failure; launch delays due to circumstances outside the control of the administration or operator; delays caused by modifications of satellite design necessary to reach coordination agreements; problems in meeting the satellite design specifications; delays in reaching coordination after a request for ITU Radiocommunication Bureau assistance; financial circumstances outside the control of the administration or operator; and force majeure). In cases where the two year extension is necessary, the licensee must inform the Commission, in writing, six months before the end of the five year period so that the Commission can timely inform the ITU of the extension request. Should Pegasus indeed wish to extend its milestone at the 107° W.L. orbital location to 2005, it must provide the Commission, six months before March 9, 2003, information demonstrating good cause to request an ITU extension on the grounds specified in the ITU Radio Regulations. As to Pegasus's remaining orbital location assignments, ITU Radio Regulations require that these satellites be brought into use at the ITU no later than nine years from the date the ITU publishes advance publication information. The ITU initially required that these locations be brought into use within six years after receipt of their advance publication information, with an option to extend that date by an additional three years upon request. Since WRC 2000, satellite networks at orbit locations whose advance publication information was received by the ITU before November 22, 1997 have been automatically granted the optional three-year extension. Because the remaining orbit locations assigned to Pegasus fall in this category, their June and July 2005 bringing into use dates cannot be further extended.



We recognize that, in this case, comparing these ITU "bringing into use" dates to our launch milestones has the incongruous result of our rules requiring Pegasus to launch its satellites into each of its assigned orbit locations by August 2006, *i.e.*, after the dates by which Pegasus is required to bring 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 Pegasus to launch its satellites into each licensed orbit location and "bring into use" all of the frequency assignments it plans to operate at that orbit location by the ITU "bringing into use" date. At present, that date at the 107° W.L. orbital location is March 9, 2003. Should the ITU grant a two-year extension of that date, the launch milestone for that licensed orbit location will automatically change to the new ITU "bringing into use" date without further Commission action. This will protect the United States filings at these locations and thus, Pegasus's ability to coordinate and gain international recognition for the satellites at each of its assigned orbit locations. Moreover, we do not anticipate that meeting this milestone will be unduly difficult. Under standard industry practice, it generally takes two to three years to construct and launch a satellite.<sup>52</sup> Pegasus will have nearly four years in which to launch its satellites into their assigned locations by the ITU "bringing into use" dates, assuming it receives an extension.

## 2. Reporting Requirements

23. We will follow the Part 25 rules for reporting requirements for FSS systems, including an annual report describing the status of satellite construction and anticipated launch dates, and a detailed description of the use made of each transponder on each of the in-orbit satellites.<sup>53</sup> Pegasus must file this report on June 30 of each year, containing information current as of May 31 of that year.

## 3. International Coordination

24. In general, we will follow the applicable advance-publication, coordination, and notification procedures as set forth in the ITU Radio Regulations in coordinating Pegasus's satellites with other affected administrations. We will also require that Pegasus provide the Commission with the international coordination information required by our rules.<sup>54</sup> The orbit locations assigned today may be co-located or within two degrees of a non-U.S.-licensed satellite filing having date priority in its ITU filings. Under these circumstances, U.S. licensees assigned to these locations are reminded that they take these licenses subject to the outcome of the international coordination process, and that the Commission is not responsible for the success or failure of the required international coordination.

## IV. CONCLUSION

25. Upon review of Pegasus's application, we find that Pegasus is qualified to be a Commission licensee and that, pursuant to Section 309 of the Communications Act of 1934, as amended, 47 U.S.C. §309, grant of this application will serve the public interest, convenience, and necessity. As specified in the *Second Round GSO Assignment Order*, we have assigned Pegasus to the 117° W.L., 107° W.L., 43° W.L., 28° E.L., and 107.5° E.L. orbital locations.

## V. ORDERING CLAUSES

26. IT IS ORDERED that Application File Nos. SAT-LOA-19980403-00025-29 ARE

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<sup>52</sup> See, e.g., *In the Matter of the Application of Comsat Corp.*, 12 FCC Rcd 12059, 12075 ¶ 33 n. 68 (1997) ("It has been our experience that it takes an average of two years to construct and launch a satellite....").

<sup>53</sup> See 47 C.F.R. § 25.210(l)(1)(2)(3).

<sup>54</sup> See 47 C.F.R. § 25.111(b).

GRANTED, as discussed above, and Pegasus Development Corporation IS AUTHORIZED to launch and operate ten GSO FSS satellites, to provide fixed-satellite service in the 18.35-18.8, 19.7-20.2, 28.35-28.6, and 29.25-30.0 GHz frequency bands at the 117° W.L., 107° W.L., 43° W.L., 28° E.L., and 107.5° E.L. orbital locations.

27. IT IS FURTHER ORDERED that Pegasus Development Corporation'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 this authorization by the following dates:

<u>Construction Commenced</u>		<u>Launch and Operate</u>	
First satellite	August 2002	117° W.L. Orbit Location	July 2, 2005
Remaining satellites	August 2003	107° W.L. Orbit Location	March 9, 2003 <sup>55</sup>
		43° W.L. Orbit Location	July 23, 2005
		28° E.L. Orbit Location	July 2, 2005
		107.5° E.L. Orbit Location	July 16, 2005

28. IT IS FURTHER ORDERED that Pegasus Development Corporation must coordinate its Ka-band downlink operations with the U.S. Government systems, including Government operations to earth stations in foreign countries, in accordance with footnote US334 to the Table of Frequency Allocations, 47 C.F.R. § 2.106, and in accordance with the *18 GHz Report and Order*, 15 FCC Red at 13473 ¶ 90.

29. IT IS FURTHER ORDERED that Pegasus Development Corporation, within 30 days from the date of the release of this order and authorization, must inform the Commission which specific spectrum in the 65-71 GHz band it has chosen for its inter-satellite link operations, and must coordinate its inter-satellite link operations in this chosen spectrum through the National Telecommunications and Information Administration's Interdepartment Radio Advisory Committee's Frequency Assignment Subcommittee. Pegasus must also coordinate its inter-satellite link operations with all other licensed non-government inter-satellite link operations in these frequency bands.

30. IT IS FURTHER ORDERED THAT Pegasus Development Corporation shall conduct its operations pursuant to this authorization in a manner consistent with the power flux-density requirements of footnote US255 to the Table of Frequency Allocations, 47 C.F.R. § 2.106, and 47 C.F.R. § 25.208, of the Commission's Rules.

31. IT IS FURTHER ORDERED that the license term for each space station is ten years and will begin to run on the date Pegasus Development Corporation certifies to the Commission that the authorized satellite has been successfully placed into orbit and the operations fully conform to the terms and conditions of this authorization.

32. IT IS FURTHER ORDERED that Pegasus Development Corporation will prepare any necessary submissions to the International Telecommunication Union and to affected administrations for the completion of the appropriate coordination and notification obligations for these space stations in accordance with the International Telecommunication Union Radio Regulations. We also remind Pegasus Development Corporation that no protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional

<sup>55</sup> If the International Telecommunication Union grants a two-year extension of this date, this milestone will automatically change to March 9, 2005 without further Commission action.

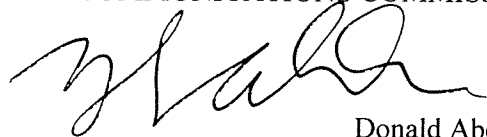
terms and conditions as required to effect coordination of the frequency assignments of other administrations, 47 C.F.R. § 25.111(b).

33. IT IS FURTHER ORDERED that the temporary assignment of any orbital location to Pegasus Development Corporation is subject to change by summary order of the Commission on 30 days' notice and does not confer any permanent right to use the orbit and spectrum. Neither this authorization nor any right granted by this authorization, shall be transferred, assigned or disposed of in any manner, voluntarily or involuntarily, or by transfer of control of any corporation holding this authorization, to any person except upon application to the Commission and upon a finding by the Commission that the public interest, convenience and necessity will be served thereby.

34. IT IS FURTHER ORDERED that Pegasus Development Corporation 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.

35. 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