

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

In the matter of
Second Round Assignment of Geostationary
Satellite Orbit Locations to Fixed Satellite
Service Space Stations in the Ka-Band

ORDER

Adopted: August 2, 2001

Released: August 3, 2001

By the Chief, International Bureau:

I. INTRODUCTION

1. By this Order, we assign orbit locations to "Second Round" applicants proposing to provide fixed-satellite service (FSS) from satellite systems in geostationary satellite orbit (GSO) using the Ka-band frequencies.

II. BACKGROUND

2. In 1997, the International Bureau (Bureau) licensed 13 applicants to launch and operate FSS systems in the first Ka-band processing round (First Round).

1 The term "Ka-band" refers 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.

2 Assignment of Orbital Locations to Space Stations in the Ka-Band, DA 97-967, 13 FCC Rcd 1030 (Int'l Bur. 1997) (First Round Assignment Order).

3 Id., 13 FCC Rcd at 1031 ¶6.

4 Assignment of Orbital Locations to Space Stations in the Ka-Band, DA 97-2654, 12 FCC Rcd 22004 (Int'l Bur. 1997) (Reassignment Order).

5 Assignment of Orbital Locations to Space Stations in the Ka-Band, DA 01-949 (Int'l Bur. 2001).

3. In conjunction with the processing of the First Round applications, the Commission released an order setting licensing qualification requirements and service rules for FSS systems in the Ka-band.<sup>6</sup> In October 1997, the Bureau initiated a second processing round (Second Round), inviting interested parties to file applications for consideration in that round by December 22, 1997.<sup>7</sup> In response, 11 applicants filed license applications for GSO satellites by that cut-off date.<sup>8</sup> One entity filed a letter of intent to use foreign Ka-band GSO satellites to serve the United States. We consider those requests today.<sup>9</sup> We authorize 11 GSO applicants, including the letter of intent filer. This will provide them with an opportunity to offer competitive broadband satellite services to customers in the United States and around the world.

### III. DISCUSSION

#### A. Assignment Framework

##### 1. General Policies

4. The Commission's fixed-satellite service policies are designed to allow qualified applicants to provide a wide variety of satellite services using a wide variety of satellite systems, without unnecessary regulatory barriers.<sup>10</sup> These policies have been flexible enough to allow U.S. satellite operators to respond promptly to changing technological and market conditions, and have helped make the United States a world leader in the provision of satellite-delivered services.

5. The Commission's flexible satellite policy is evident in the procedure applied here to assign specific geostationary satellite orbit locations. Previous domestic satellite assignment orders have established that applicants' requests for particular orbital locations do not limit our flexibility to assign orbital locations that best serve the public interest.<sup>11</sup> Instead, our assignment of orbital locations includes

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<sup>6</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)*, FCC 97-378, 12 FCC Rcd 22310 (1997).

<sup>7</sup> *Satellite Policy Branch Information, Public Notices*, Report No. SPB-105, DA 97-2201, and Report No. SPB-106, DA 97-2202 (rel. Oct. 15, 1997).

<sup>8</sup> *Satellite Policy Branch Information, Ka-Band Satellite Applications Accepted For Filing*, Report No. SAT-00012 (rel. March 16, 1999).

<sup>9</sup> Five applicants proposed systems in non-geostationary satellite orbit (NGSO systems). Because we cannot accommodate all NGSO systems as proposed, we will need to develop and adopt processing rules for this group in a separate proceeding. Further, we defer action on a request by KaStarcom. World Satellite, LLC to operate GSO satellites using 500 megahertz of spectrum at the 73° W.L. orbit location and 500 megahertz of spectrum at the 109.2° W.L. orbit location. See *Satellite Policy Branch Information, Public Notice*, Report No. SAT-00073 (rel. June 19, 2001). We also defer action on the Second Round applications of Motorola, Inc. because a pending transfer of control application may affect the status of these applications. See *Satellite Policy Branch Information, Public Notice*, Report No. SAT-00068 (rel. April 6, 2001). After today's orbit location assignments, a sufficient number of Ka-band orbit locations remain available to meet the requests of these deferred applicants.

<sup>10</sup> See *Establishment of Domestic Communications Satellite Facilities by Non-Governmental Entities, Report and Order*, 22 F.C.C. 2d 86 (1970); *Second Report and Order*, 35 F.C.C. 2d 844 (1972); *recon. in part, Memorandum Opinion and Order*, 38 F.C.C. 2d 665 (1972).

<sup>11</sup> See, e.g., *Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service*, 3 FCC Rcd 6972 (1988) (*1988 Orbital Assignment Order*). For this reason, we caution applicants that until they receive an actual orbital assignment from the Commission, they have no assurance that the location for which they

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a consideration of each applicant's request and several competing factors, which may include the volume and distribution of traffic requirements, constraints imposed by satellite design, plans of other countries for their satellites, and equitable treatment of established and new satellite operators. Finally, we attempt to afford new entrants, when possible, at least one initial orbital location in the portion of the orbital arc that allows them to provide maximum quality service to all 50 states.<sup>12</sup> Consequently, we will attempt to assign new entrants to at least one orbit location that (1) provides 50-state coverage, or (2) best meets the applicant's needs if the stated preference lies outside of the 50-state orbit arc.

## 2. Available Locations

6. The orbit locations that we consider available for assignment in this Second Round are those locations that were not assigned to licensees in the First Round and for which the Commission has initiated the international coordination process for the United States at the International Telecommunication Union (ITU). This includes those orbit locations where the United States was not the first country or administration to file coordination information at that particular orbit location. In these cases, U.S. licensees at such orbit locations must operate on an unprotected non-harmful interference basis with respect to an operating satellite with date priority at the location.<sup>13</sup> Even so, the Second Round applicants' requests for assignment to several such locations is an indication that U.S. applicants are willing to risk that these other countries will not implement satellites at these locations, or that U.S. applicants believe they can successfully coordinate operations with another operational system at those locations.

## 3. Two-Degree Spacing

7. The cornerstone of our orbital assignment policy is two-degree orbital spacing, which is designed to maximize the number of GSO satellites in-orbit.<sup>14</sup> This policy, adopted in 1983, was designed to accommodate the maximum number of satellites communicating in the C- and Ku- frequency bands, so that the increasing demand for satellite services could be met.

8. The Commission's rules require that an applicant for a GSO FSS space station authorization demonstrate how the proposed space station complies with two-degree orbital spacing requirements. 47 C.F.R. § 25.140. In the *Ka-Band FSS Rules Order*, we found it was in the public interest to continue our policy of maximizing the number of satellites that can be accommodated in-orbit, by applying two-degree spacing to U.S.-licensed, commercial Ka-band satellites.<sup>15</sup> We continue to apply that policy in this Second Round.<sup>16</sup>

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apply will be the location for which a satellite is authorized. Expenses incurred to prepare a satellite for operation from a particular location are incurred at the applicant's risk, and will not influence the Commission's assignments.

<sup>12</sup> *1988 Orbital Assignment Order*, 3 FCC Rcd at 6972 ¶ 3.

<sup>13</sup> For a detailed discussion of the ITU coordination process, see ¶ 22, *infra*.

<sup>14</sup> The two-degree spacing policy was adopted in 1983 in *Licensing of Space Stations in the Domestic Fixed-Satellite Service*, 54 Rad. Reg. 2d (P&F) 577, 589 (1983) (*Reduced Orbital Spacing*), and was implemented in the *1985 Orbital Assignment Order*, 50 Fed. Reg. 35228 (August 30, 1985), and subsequent domestic satellite assignments.

<sup>15</sup> *Ka-Band FSS Rules Order*, FCC 97-378, 12 FCC Rcd at 22318 ¶ 18.

<sup>16</sup> The one exception to two-degree spacing in this Second Round is an orbit location assignment made at the request of the short-spaced licensee and applicant affected. KaStarCom. World Satellite, LLC will be licensed to launch and operate a satellite at the 111° W.L. orbit location requested in its application. File No. SAT-LOA-19980312-00018 (filed March 12, 1998). This assignment is only 1.8 degrees away from a GSO FSS satellite in the  
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## B. Qualifications Requirements

9. All of the licensing qualification requirements and service rules that the Commission set forth for GSO FSS systems in the Ka-band in 1997 apply to Second Round applicants as well.<sup>17</sup> In this Order, we discuss a number of licensing and service rule issues raised by Second Round applicants in their comments on other applications, explaining our decision to apply or waive existing rules for this Second Round.

10. The basic qualification requirements for fixed-satellite licenses are contained in Section 25.140 of our rules.<sup>18</sup> These rules describe the legal, technical, and financial criteria we use to evaluate an applicant's qualifications to hold a license. In developing this Second Round Ka-band FSS assignment plan and the individual licensing orders, we have evaluated each pending application to determine whether it complies with Section 25.140.

### 1. Financial Qualifications for Second Round Ka-Band Applicants

11. The Commission's rules require that an applicant for a new fixed-satellite system possess sufficient financial resources to cover construction, launch, and first-year operating costs for each proposed space station.<sup>19</sup> These 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>20</sup>

12. Nevertheless, the Commission may grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question, and would otherwise serve the public interest.<sup>21</sup> In cases where we can accommodate all pending satellite applications and future entry is possible, we have waived financial qualification requirements because the grant of an authorization to one applicant will not prevent another qualified applicant from advancing with a proposal for the same service.<sup>22</sup> In addition, there is a pro-competition public interest in licensing all applicants, if possible. For

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Ka-band licensed to KaStar Satellite Communications Corporation and now held by WB Holdings 1 LLC. *KaStar Satellite Communications Corporation Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed-Satellite Service*, DA 01-231, 13 FCC Rcd 1366 (1997).

<sup>17</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22316 ¶ 15, and at 22318-19 ¶¶ 19-20 (modifying and clarifying FSS rules to accommodate Ka-band operations).

<sup>18</sup> *See* 47 C.F.R. § 25.140.

<sup>19</sup> 47 C.F.R. § 25.140(b)-(e).

<sup>20</sup> *See, e.g., Norris Satellite Communications, Inc.*, 12 FCC Rcd 22299 (Int'l Bur. 1996); *National Exchange Satellite, Inc.*, 7 FCC Rcd 1990 (Com. Car. Bur. 1992); *Rainbow Satellite, Inc.*, Mimeo No. 2584 (Com. Car. Bur., rel. February 14, 1985); *United States Satellite Systems, Inc.*, Mimeo No. 2583 (Com. Car. Bur., rel. February 14, 1985) (satellite licenses issued to under-capitalized licensees declared null and void for failure to begin implementation as required by license).

<sup>21</sup> *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

<sup>22</sup> *See, e.g., Radiodetermination Satellite Service*, 104 FCC 2d 650 (1986) (because all pending RDSS applicants could be accommodated and future entry was possible, the Commission required applicants to provide only a detailed business plan). *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 at ¶ 26 (1994) (*Big LEO Report and Order*).

these reasons, we waived the financial qualification rules for the First Round Ka-Band applicants.<sup>23</sup> We have likewise determined that we can accommodate all Second Round applicants in the orbital locations available for assignment to U.S. GSO Ka-band satellites, and have available additional orbit locations for future entry. Consequently, we will also waive the FSS financial requirement for Second Round applicants, as reflected in their individual licenses. We intend to enforce system milestone schedules strictly to ensure that any licensees who are not able to proceed do not continue to hold valuable orbit and spectrum resources. We emphasize that this waiver applies to this processing group only, and that the application of our financial requirements to any future Ka-band processing round will be addressed in the context of that processing round.

### C. Technical Issues

13. The Commission's FSS rules include technical qualification requirements for commercial satellite systems in the Ka-band. These rules are designed, primarily, to implement the Commission's two-degree orbital spacing framework, while acknowledging some minor differences between Ka-band satellites and more established C- and Ku-band satellite systems.<sup>24</sup> Further, operations in the Ka-band must be conducted in accordance with a band plan adopted by the Commission in 1997, and modified slightly last year.<sup>25</sup> The band plan designates discrete portions of the 17.7-20.2 GHz and 27.5-30.0 GHz bands for primary, co-primary, or secondary use by GSO FSS systems, NGSO FSS systems, terrestrial-fixed systems, and feeder links for certain mobile-satellite systems.<sup>26</sup> In addition, licensees must coordinate with the U.S. Government systems in accordance with footnote US334 to the Table of

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<sup>23</sup> See *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22318 ¶ 18.

<sup>24</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22320 ¶ 25.

<sup>25</sup> 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, First Report and Order and Fourth Notice of Proposed Rulemaking*, FCC 96-311, 11 FCC Rcd 19005 (rel. July 22, 1996) (*28 GHz Band First Report and Order*); modified in *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).

<sup>26</sup> 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. *28 GHz First Report and Order*, 11 FCC Rcd at 19023-31. 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 (satellite-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. *18 GHz Band Report and Order*, 15 FCC Rcd at 13443-54. 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).

Frequency Allocations.<sup>27</sup> This footnote requires coordination of commercial systems with U.S. Government GSO and NGSO FSS systems that are presently operating in the 17.8-20.2 GHz frequency band. These Government systems plan to operate in accordance with the power flux-density limits contained in the current ITU Radio Regulations.<sup>28</sup> In this section, we discuss several technical issues that were raised by applicants in the Second Round.

## 1. Authorized Spectrum

14. The Ka-band plan authorizes services to share spectrum on a co-primary basis in band segments where the Commission and the parties concluded that sharing is technically feasible. In other spectrum segments, particular services are designated to operate on a primary basis, with other services operating on a “secondary” status. For example, in the 28.35-28.60 GHz frequency band segment, GSO FSS systems have primary status, while NGSO FSS systems have secondary status. In the 28.6-29.1 GHz frequency band segment, NGSO FSS systems have primary status, while GSO FSS systems have secondary status. Accordingly, we will require any service provider proposing to operate in a band segment in which it has secondary status to operate on an unprotected non-harmful interference basis with respect to the primary service. Before we authorize any secondary operations in the bands, we will therefore require all secondary operators to submit to the Commission a technical demonstration that they can operate on a non-harmful interference basis to the primary service. This technical demonstration will be subject to public comment. In addition, we will require secondary users to cease operations immediately upon notification of harmful interference into any service or system that has superior status in a particular band segment.

## 2. High-Powered Arc Proposal

15. Several Second Round applicants have requested that a specific portion of the arc be set aside for high-power operations. In the *1988 Orbital Assignment Order*, the Commission set aside specific portions of the orbital arc for C-band and Ku-band satellites operating with power density levels higher than those generally used by other satellite licensees.<sup>29</sup> This was designed to alleviate anticipated interference problems between newer, high-power-density satellites and more traditional satellites. In subsequent years, most newly implemented satellites have been designed to operate at higher power-density levels, and have operated in all portions of the orbital arc without causing interference problems. We have therefore discontinued designating specific portions of the arc for high-power-density satellites, but continue to consider the technical characteristics of all satellites and their interference potential when assigning satellites to adjacent locations. Consequently, we will not implement a “high-power arc” for Second Round Ka-band systems and will instead continue to consider all technical characteristics when making orbital assignments.

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<sup>27</sup> See 47 C.F.R. § 2.106 US334. Government GSO space stations have been authorized by the National Telecommunications and Information Administration at 144° W.L., 141° W.L., 69° W.L., 65° W.L., 60° W.L., 30° W.L., 24° W.L., 13° W.L., 10° W.L., 0° E.L., 44° E.L., 75° E.L., 82° E.L., 92° E.L., and 110° E.L.

<sup>28</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>29</sup> See *1988 Orbital Assignment Order*, 3 FCC Rcd at 6974.

## D. Orbital Assignments

### 1. Number of Assignments

16. To accommodate maximum entry while facilitating efficient use of in-orbit resources, our Part 25 rules limit the number of orbit locations that a qualified FSS applicant may be assigned initially for a new system and for expanding a previously licensed system.<sup>30</sup> The rule limits “new entrants” to two satellites in each frequency band and limits the number of expansion satellites granted to previously licensed companies to one in each frequency band. A number of Second Round applicants urge us to apply this rule.<sup>31</sup> We believe, however, that the public interest will be best served by allowing all proposed systems, especially those proposing to serve different geographic areas, to proceed as proposed at this point. As was noted above with regard to the financial qualifications rule, the Commission may grant a waiver of its rules so long as the relief requested serves the public interest and does not undermine the policy objective of the rule.<sup>32</sup>

17. The rule limiting orbit locations was designed to avoid prematurely assigning an excessive number of orbital locations to an existing licensee for expansion of its domestic system, and to promote entry opportunity in the bands.<sup>33</sup> We have developed an assignment plan that accommodates all requested satellites. Consequently, there is no compelling reason not to allow all applicants an opportunity to provide the services they have proposed. We also note that impending ITU deadlines for operating satellites at the available Ka-band orbit locations would be difficult to meet if the Commission initiated another processing round for new applications to “extra” orbital locations. Therefore, we will waive, for this Second Round, the rule that limits the number of orbit locations that may be assigned to each applicant.<sup>34</sup>

### 2. New Entrants

18. As we noted above, when assigning orbital locations to domestic satellites since the early 1980s, the Commission attempts to afford new entrants at least one initial orbital location in the portion of the orbital arc that allows them to provide maximum quality service to all 50 states.<sup>35</sup> A number of Second Round applicants have raised issues regarding the definition of a “new entrant,” both in the context of an orbit location limitation and in assigning orbit locations to licensed space stations. While this issue was mooted in the first context by our decision to waive the orbit location limitation for all applicants, we examine the matter of identifying “new entrants” further for purposes of determining orbit assignments.

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<sup>30</sup> See 47 C.F.R. § 25.140 (e), (f).

<sup>31</sup> See, e.g., Pegasus Development Corporation, Consolidated Petition to Deny at pp. 8-12 (filed May 21, 1999); TRW, Inc., Partial Petition To Deny Of TRW Inc. at pp. 4-7 (filed May 21, 1999).

<sup>32</sup> See *supra* at ¶ 12; *WAIT Radio v. FCC*, 418 F.2d at 1157.

<sup>33</sup> See *Licensing Space Stations in the Domestic Fixed-Satellite Service*, 50 Fed. Reg 36071 (September 5, 1985).

<sup>34</sup> The rule limiting orbit locations was also waived in the first Ka-band FSS processing round. See *Ka-Band FSS Rules Order*, 12 FCC at 22310 ¶ 24.

<sup>35</sup> See *1988 Orbital Assignment Order*, 3 FCC Rcd at 6972 ¶ 3. We have previously found locations in the orbital arc between 119° W.L. and 135° W.L. are best suited to provide 50-state coverage. See *1983 Assignment Order*, 94 F.C.C. 2d 129 ¶ 12 (1983). Because, however, the Ka-band frequencies are more susceptible to rain attenuation, which degrades the signal, orbit locations as far west as 135° W.L. may not provide optimal 50-state coverage.

19. We have never defined “new entrant” or “controlling interest” for purposes of orbit location assignments. We identify eight new entrants in the Second Round, based upon the representations made in their applications, and corroborated by their submitted ownership information, that none has a “controlling interest” in a First Round Ka-Band licensee: CAI Data Systems, Inc., Celsat America, Inc., DirectCom Networks, Inc., KaStarcom. World Satellite, LLC, Lockheed Martin Corporation, Pacific Century Group, Inc., Pegasus Development Corporation, and TRW Inc.<sup>36</sup> We recognize the arguments raised in various applicants’ petitions to deny that, based upon attribution rules used in other services, many of these applicants should not be considered “new entrants.” We find it unnecessary to undertake a detailed investigation of the ownership structure of the Second Round applicants, however, because the orbit location assignment plan adopted today accommodates all proposed satellites and still leaves additional orbit locations available for future entry.<sup>37</sup> Moreover, we can assign all applicants claiming to be new entrants to at least one location in the orbital arc capable of providing 50-state coverage, or, if their requested location lies outside the 50-state arc, to a location at or near the requested location. We can also assign all proposed expansion satellites to locations suitable for enhancing the coverage area of the First Round system, which in all cases already includes at least one satellite in the arc capable of serving the contiguous United States.

20. We caution all satellite applicants that future processing rounds may not include sufficient orbit locations to meet all requests. When that occurs, our assignment decisions may require a full investigation of attributable ownership interests.<sup>38</sup>

### 3. Orbital Assignments to Non-U.S.-Licensed Satellite

21. Pacific Century Group, Inc. (PCG) filed a Letter of Intent under the Commission’s Disco II Order procedures to participate in the Second Round as a non-U.S.-licensed satellite operator.<sup>39</sup> A Letter of Intent (LOI) is one means by which a satellite operator licensed outside the United States may request authority to operate within it. PCG is a Cayman Islands corporation with its business operations headquartered in Hong Kong that holds ITU filing date priority for coordination at three orbit locations, 75° W.L., 82° W.L., and 89° W.L. The Office of Telecommunications, the United Kingdom telecommunications administration, is the coordinating administration for PCG at these three orbit

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<sup>36</sup> The largest ownership interest a Second Round “new entrant” has in a First Round licensee is 31.1%. *See Ex Parte* Presentation from Bruce D. Jacobs, Counsel to Pegasus Development Corporation, to Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, Federal Communications Commission (filed May 9, 2001).

<sup>37</sup> Hughes suggests that there are fewer than eight new entrants, but does not specify which applicants it believes are “new entrants,” and does not explain how it reached that conclusion. *See* Letter from Joslyn Read, Assistant Vice president, Regulatory and International Affairs, of Hughes Network Systems, to Fern Jarmulnek, Satellite and Radiocommunication Division, Federal Communications Commission (July 30, 2001).

<sup>38</sup> *See, e.g., Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses, First Report and Order*, FCC 98-194, 13 FCC Rcd 15920 (1998); *Memorandum Opinion and Order*, FCC 99-74, 14 FCC Rcd 8724 (1999); *Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses, Memorandum Opinion and Order*, FCC 99-201, 14 FCC Rcd 12541 (1999); *Review of the Commission’s Regulations Governing Attribution of Broadcast and Cable/MDS Interests, Report and Order*, 14 FCC Rcd 12559 (1999).

<sup>39</sup> Pacific Century Group Letter of Intent as a Foreign Satellite Operator to Provide Fixed Satellite Services in the Ka-Band to the United States, File No. SAT-LOI-19971222-00217 (filed December 22, 1997). *See Amendment of the Commission’s Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, FCC 97-399, 12 FCC Rcd 24094, 24173 ¶¶ 184-85 (1997) (*DISCO II Order*).



locations. In its LOI, PCG requests that the Commission reserve two of those three orbit locations for PCG's proposed United States operations.<sup>40</sup> The Commission has, however, issued First Round Ka-band licenses at or within one degree of each of PCG's requested locations. The resulting situation has engendered petitions to deny and a substantial amount of comment among the Second Round applicants.<sup>41</sup> We therefore explain here the application of the Commission's *DISCO II Order* procedures.

22. The United States is under a treaty obligation, in connection with its membership in the ITU, to coordinate all U.S. authorized satellite services internationally.<sup>42</sup> The ITU's coordination procedures are intended to ensure that the operations of one country's satellites do not cause or receive harmful interference to or from the operations of another country's satellites. The procedure for effecting coordination of a satellite system is a three-step process consisting of (1) advance publication, where a country makes known its plans to implement a satellite system at particular frequencies and orbital parameters (*e.g.*, location), (2) coordination, where the country seeking to implement the new satellite negotiates with other countries whose operating or planned satellites may be affected by the new satellite's operations to ensure interference-free operations of the new satellite, and (3) notification, where coordination has been successfully completed and the frequency assignment is recorded in the ITU's Master International Frequency Register. Once these processes have been completed, a satellite system is entitled to international recognition and is protected against interference from all existing and future satellites. Those countries that are the first to file advance publication information at a particular orbit location have ITU "date priority." Satellites with later advance publication dates may not cause interference to an operating satellite with date priority at the location.

23. We have advance published Ka-Band GSO FSS systems and have initiated coordination with the ITU for all of the orbit locations available to the First and Second Round applicants. This includes the 89° W.L., 83° W.L., 81° W.L., and 75° W.L. orbit locations, which were assigned to First Round licensees. The United Kingdom has advance published Ka-band GSO FSS systems on behalf of PCG at the 89° W.L., 82° W.L., and 72° W.L. orbit locations. These British filings have ITU date priority.

24. The *DISCO II Order* adopted a framework under which we consider requests by non-U.S. licensed satellites for access to the United States market.<sup>43</sup> We examine these requests consistent with the public interest, convenience and necessity, considering public interest factors that include the effect on competition in the United States, spectrum availability, eligibility and operating requirements.<sup>44</sup> The *DISCO II Order* framework allows non-U.S.-licensed satellites to access the United States by (1) participating in a U.S. space station processing round through either an earth station application or an

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<sup>40</sup> PCG requests authority to operate two satellites at each of two orbit locations, 82° W.L. and 89° W.L. Alternatively, PCG is willing to use its third location at 75° W.L. in lieu of the 82° W.L. orbit location requested in its LOI. *See* Pacific Century Group, Inc. Petition to Deny or Condition Grant Of Authorizations at p. 15 (filed May 21, 1999).

<sup>41</sup> *See, e.g.*, Comments of TRW, Inc., filed May 21, 1999; Pegasus Development Corporation, Consolidated Petition to Deny (filed May 21, 1999); Comments of Loral Space & Communications LTD, (filed May 21, 1999); Consolidated Petitions to Dismiss, Deny or Defer of Hughes Communication Galaxy, Inc. and Hughes Communications, Inc., (filed May 26, 1999).

<sup>42</sup> *Ka-Band FSS Rules Order*, 12 FCC Rcd at 22335-36 ¶¶ 63-64.

<sup>43</sup> *DISCO II Order*, 12 FCC Rcd at 24098 ¶ 7.

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

LOI, or (2) by filing an earth station application to communicate with an operating satellite, considered independently of a processing round.<sup>45</sup>

25. Spectrum availability is a factor when we determine whether allowing a non-U.S.-licensed satellite to serve the United States is in the public interest.<sup>46</sup> Since it is often not possible to issue licenses to all entities that participate in a processing round, the Commission has emphasized that our rules and policies – including spectrum availability – apply to both U.S.-licensed and non-U.S.-licensed applicants in a transparent and nondiscriminatory manner.<sup>47</sup> The Commission has also cautioned that it does not expect to require existing U.S. satellite systems to change their licensed operating parameters to accommodate additional non-U.S. systems.<sup>48</sup> As a result, it is possible that the Commission may be forced to deny a pending application to serve the United States through a non-U.S.-licensed satellite.

26. Applying these policies to the LOI filed by PCG requires the conclusion that PCG cannot be licensed in the Second Round at orbit locations that have been assigned in the First Round. At all three of the orbit locations that PCG has requested or indicated it is willing to operate, First Round licenses were issued at the precise location or within one degree of the location.<sup>49</sup> We issued these licenses in mid-1997, before the World Trade Organization Basic Telecom Agreement (“Agreement”), with its commitment to open satellite markets to competition as of January 1, 1998, was reached, and before PCG filed its letter of intent to serve the United States market. The Agreement does not require the Commission to require existing U.S. satellite systems to change their licensed operating parameters to accommodate additional non-U.S.-licensed systems. Further, in adopting a regulatory framework consistent with the Agreement with respect to satellite-delivered services in the United States, the Commission explicitly stated that it would consider spectrum availability in determining whether to permit foreign satellites to serve the United States.<sup>50</sup> Consequently, we will not require First Round Ka-band licensees to change their operating parameters to accommodate PCG’s planned system.

27. The Commission’s domestic satellite assignment orders have long since established that applicants’ requests for particular orbital locations do not limit our flexibility to assign orbit locations, based upon the Commission’s view that orbit locations within the same portion of the geostationary orbital arc are not significantly different.<sup>51</sup> When we apply those policies in this Second Round in a nondiscriminatory manner, while PCG will not receive the specific orbit locations it requested, many other Second Round applicants also will not receive the specific orbit locations they requested. Neither the United States’ treaty commitments nor the Commission’s *DISCO II Order* market-opening policies

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<sup>45</sup> *Id.* at ¶ 188.

<sup>46</sup> *DISCO II Order*, 12 FCC Rcd at 24158 ¶ 149.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at ¶ 147.

<sup>49</sup> *Comm, Inc.* is licensed at the 75° W.L. orbit location. *Comm, Inc., Order and Authorization*, 12 FCC Rcd 23001 (Int’l Bur. 1997). *Orion Network System*, now part of Loral Space & Communications, Ltd. (Loral/Orion), is licensed at the 89° W.L. orbit location. *Orion Network Systems, Inc., Order and Authorization*, 12 FCC Rcd 23027 (Int’l Bur. 1997). PCG’s request for authority at 82° W.L. is within one degree from Loral/Orion’s authorization at 81° W.L. and EchoStar Satellite Corp.’s (EchoStar) authorization at 83° W.L. *EchoStar Satellite Corp., Order and Authorization*, 13 FCC Rcd 5664 (Int’l Bur. 1997). The Commission cannot grant authorization at 82° W.L. without violating its two-degree spacing policy. *See supra* at ¶¶ 7-8.

<sup>50</sup> *DISCO II Order*, 12 FCC Rcd at 24157-59 ¶¶ 146-150.

<sup>51</sup> *See* ¶ 5, *supra*.

require discriminatorily favorable treatment of PCG because of the fact that it has “date” priority at the ITU. Both before and since the adoption of the *DISCO II Order*, the United States’ ITU treaty obligations require international coordination of all U.S. authorized services. The First Round licenses issued to Comm, Inc., EchoStar and Loral/Orion, which are less than two degrees away from PCG’s planned satellites, each require international coordination, which means that they must all complete international coordination with PCG before operating at their U.S.-licensed locations.<sup>52</sup>

28. The orbit location plan we adopt today reserves Ka-band spectrum at the 71° W.L. and 62° W.L. for PCG’s United States operations in this Second Round. This means that we will not assign U.S.-licensed Ka-band satellites to these locations, nor will the Commission pursue international coordination for U.S.-licensed Ka-band satellites at these orbit locations, so long as PCG holds these reservations. These locations are within the same portion of the geostationary orbital arc as the locations PCG requested. We realize, of course, that PCG does not hold ITU filing date priority for coordination at these locations. Thus, if the British government wishes to sponsor PCG’s satellites at these locations, it will need to initiate the international coordination process pursuant to ITU regulations on PCG’s behalf. Our reservation of Ka-band spectrum at two orbit locations for PCG in a companion order issued today includes our standard ordering clause allowing PCG to reject the reservation as conditioned within 30 days. We expect that PCG will determine whether its business plans can best be achieved with access to the United States market from the 71° W.L. and 62° W.L. locations and subsequent international coordination, or from the locations for which it has ITU date priority, after international coordination with Comm, Inc., EchoStar and Loral/Orion, and any other potentially affected administrations.

#### 4. The Assignment Plan

29. We believe that the orbit location assignment plan we adopt today avoids unnecessary delay in providing needed satellite services to the public. Our orbit location assignment plan accommodates all new entrants’ and all proposed expansion satellites. We therefore deny a pending motion to consolidate First Round and Second Round matters.<sup>53</sup> Nevertheless, we recognize that there are a number of outstanding transfer of control applications involving First Round licenses. To the extent that any orbit locations become available for reassignment as the result of Commission action on these transfer applications, we will make these orbital locations available to all Ka-band licensees before considering new applications for these locations.<sup>54</sup>

30. The first step in developing our assignment plan was to examine the availability of the orbit locations requested by the Second Round applicants. A large number of requested orbit locations are unavailable to Second Round applicants, because the locations have already been assigned to First Round licensees. A number of other requested orbit locations are unavailable because the Commission has not

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<sup>52</sup> The First Round licenses issued to Comm, Inc., EchoStar and Orion each contain the following condition: “we also remind all licensees 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 terms and conditions as required to effect coordination of the frequency assignments of other Administrations, 47 C.F.R. § 25.111(b).” *Comm, Inc. Order and Authorization*, 12 FCC Rcd at 23013; *EchoStar Order and Authorization*, 13 FCC Rcd at 5675; *Orion Network Order and Authorization*, 12 FCC Rcd at 23038.

<sup>53</sup> Pegasus Development Corporation, Motion To Consolidate All First-round and Second-Round Licensing Matters (filed March 26, 2001).

<sup>54</sup> See *Assignment of Orbital Locations to Space Stations in the Ka-Band, Memorandum Opinion and Order*, DA 01-949 at ¶9.

been asked to initiate the international coordination process for these locations at the ITU, and thus has not done so.

31. After eliminating unavailable orbit locations we attempted to assign applicants to orbit locations at or near their requested locations, giving priority to new entrants.<sup>55</sup> We describe below each applicant's most recent orbit assignment request, the locations to which we assign them, and the basis for our assignment decisions. We also attach a copy of the Ka-Band assignment plan, including assignments made in both the First and Second Rounds, in the Appendix.

**CAI Data Systems, Inc.:**

Requested: 87° W.L.

Assigned: 125° W.L.

Rationale: 87° W.L. assigned in First Round; 125° W.L. provides one 50-state coverage location with U.S. ITU date priority for new entrant

**Celsat America, Inc:**

Requested: 850 megahertz of spectrum at 95° W.L. or, alternatively, 500 megahertz of spectrum at 83° W.L. and 500 megahertz of spectrum at 121° W.L.

Assigned: 500 megahertz of spectrum at 121° W.L. and 500 megahertz of spectrum at 83° W.L.

Rationale: Locations licensed in First Round for 500 megahertz only

**DirectCom Networks, Inc.:**

Requested: 103° W.L. and 93° W.L. (or 117° W.L., 107° W.L., or 109.2° W.L. as alternates)

Assigned: 127° W.L. and 123° W.L.

Rationale: 93° W.L. assigned in First Round; provides one 50-state coverage location with U.S. ITU date priority for new entrant

**Hughes Communications, Inc.:**

Requested: 125° W.L., 71° W.L., 26.2° W.L., 99° E.L.

Assigned: 131° W.L., 26.2° W.L., 7.5° W.L., 103° E.L.

Rationale: Expansion satellites for First Round system assigned outside CONUS arc

**KaStarcom World Satellite, LLC:**

Requested: 111° W.L., 500 megahertz at 109.2° W.L., 500 megahertz at 73° W.L.

Assigned: 111° W.L.

Rationale: Action deferred on 109.2° W.L. and 73° W.L. requests; provides requested 50-state coverage location for new entrant

**Lockheed Martin Corporation:**

Requested: 127° W.L., 79° W.L., 52° E.L., 99° E.L., 151.5° E.L.

Assigned: 129° W.L., 51° W.L., 52° E.L., 99° E.L., 151.5° E.L.

Rationale: Provides one 50-state coverage location with U.S. ITU date priority for new entrant

**Loral Cyberstar, Inc.:**

Requested: 95° W.L. and 15° W.L.

Assigned: 147° W.L. and 15° W.L.

Rationale: 95° W.L. assigned in First Round, expansion satellites for First Round system assigned outside CONUS arc

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<sup>55</sup> See discussion at ¶ 5, *supra*.

**Motorola Global Communications, Inc:**

Requested: 139° W.L., 7.5° W.L., 42° E.L., 97° E.L., 151.5° E.L.

Assigned: Deferred

Rationale: Pending transfer of control application may affect status of applications

**Pacific Century Group:**

Requested: 89° W.L. and 82° W.L. (prefers assignment in 71° W.L. - 100° W.L. orbit arc)

Assigned: 71° W.L. and 62° W.L.

Rationale: 89° W.L. and 83° W.L. assigned in First Round; provides one location in preferred orbit arc for new entrant

**PanAmSat Corporation:**

Requested: 125° W.L., 58° W.L., 45° W.L., 68.5° E.L., 72° E.L., 166° E.L.

Assigned: 133° W.L., 58° W.L., 45° W.L., 68.5° E.L., 72.7° E.L., 166° E.L.

Rationale: Expansion satellites for First Round system assigned outside CONUS arc; no U.S. ITU filing for 72° E.L.

**Pegasus Development Corporation:**

Requested: CONUS locations -- Any combination of 95° W.L. and 91° W.L.; 91° W.L. and 87° W.L.; 95° W.L. and 87° W.L.; or 113° W.L. and 107° W.L. Non-CONUS locations -- 58° W.L., 28° E.L., and 107.5° E.L.

Assigned: 117° W.L., 107° W.L., 43° W.L., 28° E.L., and 107.5° E.L.

Rationale: 87° W.L., 91° W.L., 95° W.L., and 113° W.L. assigned in First Round; provides one 50-state coverage location with U.S. ITU date priority for new entrant

**TRW, Inc:**

Requested: 83° W.L., 113° W.L. (prefers assignment in 79° W.L. - 117° W.L. orbit arc), 15° E.L. and 116.5° E.L.

Assigned: 119° W.L., 79° W.L., 15° E.L. and 116.5° E.L.

Rationale: 83° W.L. and 113° W.L. assigned in First Round; provides locations in preferred orbit arc for new entrant

32. As with all previous assignment plans, we will entertain requests for changes in the orbital assignments made today if they are consistent with the basic structure of our assignment plan and are agreed by all, or at least most, of the satellite operators affected by the change. If all operators do not agree, the burden is on the operator proposing the change to demonstrate that its alternative is preferable to the adopted plan. Any alternative orbital arrangement, including requests for any unassigned orbital locations, may be presented to the Commission for approval within 30 days of the release of the individual orders acting upon the applications.

#### IV. CONCLUSION AND ORDERING CLAUSES

33. We find, upon review of the applications and record before us, that pursuant to Section 309 of the Communications Act, 47 U.S.C. § 309, the public interest, convenience, and necessity will be served by adopting the orbital assignment plan contained in the Appendix.

34. Accordingly, IT IS ORDERED that the orbital assignments specified in the Appendix ARE ADOPTED and the licensees of these space stations shall promptly undertake all actions necessary to implement this orbital assignment plan, including coordination with other U.S. satellite operators and with operators licensed by other administrations.

35. IT IS FURTHER ORDERED that the Motion To Consolidate All First-round and Second-Round Licensing Matters, filed by Pegasus Development Corporation is DENIED.

36. IT IS FURTHER ORDERED that the assignment of any orbital location is subject to change by summary order of the Commission on 30 days notice and does not confer any permanent right to the use of the geostationary satellite orbit or spectrum.

37. IT IS FURTHER ORDERED that these orbital assignments will be effective 30 days after the effective date of our individual orders on the underlying applications.

38. This Order is issued pursuant to Section 0.261 of the Commission's rule or 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

**APPENDIX  
Ka-Band GSO Orbit Assignment Plan<sup>1</sup>**

<b><u>Orbit Location</u></b>	<b><u>Licensee</u></b>
175° W.L	[Available]
147° W.L	<b>Loral Cyberstar, Inc.</b>
139° W.L	[Available]
133° W.L	<b>PanAmSat Corporation</b>
131° W.L	<b>Hughes Communications, Inc.</b>
129° W.L	<b>Lockheed Martin Corporation</b>
127° W.L	<b>DirectCom Networks, Inc.</b>
125° W.L	<b>CAI Data Systems, Inc.</b>
123° W.L	<b>DirectCom Networks, Inc.</b>
121° W.L.	Echostar Satellite Corporation (500 megahertz) <b>Celsat America, Inc. (500 megahertz)</b>
119° W.L.	<b>TRW, Inc.</b>
117° W.L.	<b>Pegasus Development Corporation</b>
115° W.L.	CyberStar Licensee LLC
113° W.L.	VisionStar, Inc.
111° W.L	<b>KaStarCom World Satellite, LLC</b>
109.2° W.L.	WB Holdings 1, LLC (500 megahertz) [500 megahertz available]
107° W.L.	<b>Pegasus Development Corporation</b>
105° W.L.	GE American Communications, Inc.
103° W.L.	PanAmSat Corporation
101° W.L.	Hughes Communications Galaxy, Inc.
99° W.L.	Hughes Communications Galaxy, Inc.

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<sup>1</sup> This Appendix lists all Ka-band GSO orbit location assignments. Applicants assigned orbit locations in the second processing round are indicated with bold-face type.

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97° W.L.	Astrolink International LLC
95° W.L.	NetSat 28 Company, LLC
93° W.L.	CyberStar Licensee LLC
91° W.L.	Motorola, Inc.
89° W.L.	Loral Space & Communications Corporation
87° W.L.	Motorola, Inc.
85° W.L.	GE American Communications, Inc.
83° W.L.	Echostar Satellite Corporation (500 megahertz) <b>Celsat America, Inc. (500 megahertz)</b>
81° W.L.	Loral Space & Communications Corporation
79° W.L.	<b>TRW, Inc.</b>
77° W.L.	Motorola, Inc.
75° W.L.	Motorola, Inc.
73° W.L.	WB Holdings 1 LLC (500 megahertz) [500 megahertz available]
71° W.L.	<b>Pacific Century Group, Inc.</b>
67° W.L.	Loral CyberStar, Inc.
62° W.L.	<b>Pacific Century Group, Inc.</b>
58° W.L.	<b>PanAmSat Corporation</b>
51° W.L.	<b>Lockheed Martin Corporation</b>
49° W.L.	Hughes Communications Galaxy, Inc.
47° W.L.	Loral Space & Communications Corporation
45° W.L.	<b>PanAmSat Corporation</b>
43° W.L.	<b>Pegasus Development Corporation</b>
26.2° W.L.	<b>Hughes Communications, Inc.</b>
21.5° W.L.	Astrolink International LLC
17° W.L.	GE American Communications, Inc.



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15° W.L.	<b>Loral CyberStar, Inc.</b>
7.5° W.L.	<b>Hughes Communications, Inc.</b>
2° E.L.	Astrolink International LLC
15° E.L.	<b>TRW, Inc.</b>
25° E.L.	Hughes Communications Galaxy, Inc.
28° E.L.	<b>Pegasus Development Corporation</b>
30° E.L.	[Available]
36° E.L.	PanAmSat Corporation
38° E.L.	[Available]
40° E.L.	PanAmSat Corporation
42° E.L.	[Available]
46° E.L.	[Available]
48° E.L.	PanAmSat Corporation
50° E.L.	[Available]
52° E.L.	<b>Lockheed Martin Corporation</b>
54° E.L.	Hughes Communications Galaxy, Inc.
56° E.L.	GE American Communications, Inc.
64.5° E.L.	[Available]
68.5° E.L.	<b>PanAmSat Corporation</b>
70.5° E.L.	[Available]
72.7° E.L.	<b>PanAmSat Corporation</b>
78° E.L.	Loral Space & Communications Corporation
89° E.L.	[Available]
97° E.L.	[Available]
99° E.L.	<b>Lockheed Martin Corporation</b>
101° E.L.	Hughes Communications Galaxy, Inc.

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103° E.L.	<b>Hughes Communications, Inc.</b>
105.5° E.L.	CyberStar Licensee, LLC
107.5° E.L.	<b>Pegasus Development Corporation</b>
111° E.L.	Hughes Communications Galaxy, Inc.
114.5° E.L.	GE American Communications, Inc.
116.5° E.L.	<b>TRW, Inc.</b>
124.5° E.L.	PanAmSat Corporation
126.5° E.L.	Loral CyberStar, Inc.
130° E.L.	Astrolink International LLC
139° E.L.	[Available]
149° E.L.	PanAmSat Corporation
151.5° E.L.	<b>Lockheed Martin Corporation</b>
155° E.L.	[Available]
160° E.L.	[Available]
164° E.L.	Hughes Communications Galaxy, Inc.
166° E.L.	<b>PanAmSat Corporation</b>
169° E.L.	[Available]
173° E.L.	PanAmSat Corporation
175.25° E.L.	Astrolink International LLC