

defining the criteria under which certain stations are subject to evaluation.

**List of Subjects in 47 CFR Parts 1 and 97**

Radio, Reporting and recordkeeping requirements.

Accordingly, 47 CFR parts 1 and 97 are corrected by making the following correcting amendments:

**PART 1—PRACTICE AND PROCEDURE**

1. The authority citation for part 1 continues to read as follows:

**Authority:** 47 U.S.C. 151, 154, 303 and 309(j), unless otherwise noted, and Section 704 of the Telecommunications Act of 1996.

**§ 1.1307 [Corrected]**

2. Section 1.1307(b)(4) introductory text is corrected to read as follows:

**§ 1.1307 Actions which may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.**

\* \* \* \* \*

(b) \* \* \*

**(4) Transition Provisions.**

Applications filed with the Commission prior to October 15, 1997 (or January 1, 1998, for the Amateur Radio Service only), for construction permits, licenses to transmit or renewals thereof, modifications in existing facilities or other authorizations or renewals thereof require the preparation of an Environmental Assessment if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency radiation that are in excess of the requirements contained in paragraphs (b)(4)(i) through (b)(4)(iii) of this section. In accordance with § 1.1312, if no new application or Commission action is required for a licensee to construct a new facility or physically modify an existing facility, e.g., geographic area licensees, and construction begins on or after October 15, 1997, the licensee will be required to prepare an Environmental Assessment if construction or modification of the facility would not comply with the provisions of paragraph (b)(1) of this section. These transition provisions do not apply to applications for equipment authorization or use for mobile, portable and unlicensed devices as specified in paragraph (b)(2) of this section.

\* \* \* \* \*

**PART 97—AMATEUR RADIO SERVICE**

1. The authority citation for part 97 continues to read as follows:

**Authority:** 48 Stat. 1066, 1082, as amended; 47 U.S.C. §§ 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. §§ 151–155, 301–609, unless otherwise noted.

**§ 97.13 [Corrected]**

2. Section 97.13(c)(1) and the table contained therein are corrected to read as follows:

**§ 97.13 Restrictions on station location.**

\* \* \* \* \*

(c) \* \* \*

(1) The licensee must perform the routine RF environmental evaluation prescribed by § 1.1307(b) of this chapter, if the power of the licensee's station exceeds the limits given in the following table:

Wavelength band	Evaluation required if power <sup>1</sup> (watts) exceeds
<b>MF</b>	
160 m .....	500
<b>HF</b>	
80 m .....	500
75 m .....	500
40 m .....	500
30 m .....	425
20 m .....	225
17 m .....	125
15 m .....	100
12 m .....	75
10 m .....	50
VHF (all bands) .....	50
<b>UHF</b>	
70 cm .....	70
33 cm .....	150
23 cm .....	200
13 cm .....	250
SHF (all bands) .....	250
EHF (all bands) .....	250
Repeater stations (all bands).	<i>non-building-mounted antennas: height above ground level to lowest point of antenna &lt;10 m and power &gt;500 W ERP</i> <i>building-mounted antennas: power &gt;500 W ERP</i>

<sup>1</sup> Power = PEP input to antenna except, for repeater stations only, power exclusion is based on ERP (effective radiated power).

Federal Communications Commission.

**William F. Caton,**

*Acting Secretary.*

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**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Part 25**

[CC Docket No. 92–297; FCC 97–378]

**Ka-Band Satellite Application and Licensing Procedures**

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule with request for comments.

**SUMMARY:** With this *Report and Order*, the Commission adopts licensing qualification requirements and service rules for a new generation of fixed-satellite service ("FSS") systems in the Ka-band.<sup>1</sup> These systems have the potential to provide a wide variety of broadband interactive digital services in the United States and around the world including: voice, data, and video; videoconferencing; facsimile; computer access and telemedicine. The systems can provide direct-to-home services, potentially allowing customers to participate in activities from distance learning to interactive home shopping. The rules established here provide guidelines for the new Ka-band satellite systems to commence operation. **DATES:** The adopted rule changes will become effective January 20, 1998, except § 25.145(g), which will become effective upon OMB approval. The Commission will publish a document announcing the effective date of § 25.145(g) following approval of the information collection request by OMB. Comments are requested on the information collection concerning Section 25.145(g) and may be filed on or before January 20, 1998.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Gilsean, International Bureau, Satellite Policy Branch, (202) 418–0757; Kathleen Campbell, International Bureau, Satellite Policy Branch (202) 418–0753. For additional information concerning the information collection contained in this Report and Order contact Judy Boley at (202) 418–0214, or via the Internet at jboley@fcc.gov.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's *Report and Order* in CC Docket No. 92–297; FCC 97–378, adopted October 9, 1997, and released October 15, 1997. The complete text of this *Report and Order* is available for inspection and copying during normal business hours in the

<sup>1</sup> The term *Ka-band* generally refers to the space-to-earth (downlink) frequencies at 17.7–20.2 GHz and the corresponding earth-to-space (uplink) frequencies at 27.5–30.0 GHz, or the "28 GHz band." This *Report and Order* pertains only to U.S. commercial satellite systems in the Ka-band.

FCC Reference Center (Room 239), 1919 M Street, N.W. Washington, D.C., and also may be purchased from the Commission's copy contractor, International Transcription Service, (202) 857-3800, 2100 M Street, N.W., Suite 140, Washington, D.C. 20037.

#### *Paperwork Reduction Act*

Section 25.143(g) contains an information collection which requires OMB approval. In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.* (PRA)), the Commission is planning to submit an information collection request to the Office of Management and Budget for review and approval and is soliciting comments on the information collection. The PRA requires the Commission to seek comment on new or modified information collections for a sixty day period. Therefore, the Commission is soliciting comment on the information collection described below. Comments should address: (a) whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

OMB Approval No.: 3060-XXXX.

Title: Section 25.145(g)—Reporting Requirements.

Form No.: N/A.

Type of Review: New.

Respondents: Businesses or other for profit, including small businesses.

Number of Respondents: 20.

Estimated Time Per Response: The Commission estimates all respondents will hire an attorney or legal assistant to complete the form. The time to retain these services is 2 hours per respondent.

Total Annual Burden: 40 hours.

Estimated Costs Per Respondent: \$300. This includes the charges for hiring an attorney, legal assistant, or engineer at \$150 an hour to complete the submissions.

Needs and Uses: In accordance with the Communications Act, the information collected will be used by the Commission to insure that licensees are in compliance with the Commission's rules and policies and will assist the Commission in determining whether operations are in the public interest.

#### **Summary of Report and Order**

1. The Ka-band is allocated for fixed service, FSS, and mobile service.<sup>2</sup> In July 1995, the Commission adopted a *Third Notice of Proposed Rulemaking* proposing, among other things, a band segmentation plan that was designed to accommodate both terrestrial and satellite communication systems.<sup>3</sup> Specifically, we proposed discrete band segments for the operation of terrestrial Local Multipoint Distribution Service ("LMDS"), GSO FSS, NGSO FSS, and feeder links for certain "Big LEO" mobile-satellite service ("MSS") satellite systems. We also proposed to apply the existing rules for GSO FSS systems in part 25 of the Commission's rules<sup>4</sup> to GSO FSS systems that will use the 28 GHz band. We requested comment, however, on whether specific rules, such as financial qualification requirements, should be altered for Ka-band satellite systems and whether any additional rules should be created for either GSO FSS systems or NGSO FSS systems operating at Ka-band.

2. In July 1996, the Commission issued a *First Report and Order and Fourth Notice of Proposed Rulemaking* adopting, among other things, a final band plan for the Ka-band.<sup>5</sup> This plan was the culmination of months of discussions with interested parties and filings in the proceeding since the release of the *Third NPRM*. The band plan adopted provides a framework that accommodates all commercial proposed services in discrete band segments and provides the opportunity to offer innovative communications services to the public. The plan designates 1000

<sup>2</sup> See 47 CFR 2.106. The 29.5–30.0 GHz band is also allocated on a primary basis to the Mobile-Satellite Service (MSS); however, in accordance with the International Telecommunication Union (ITU) Radio Regulation S5.529, use of the 29.5–30.0 GHz band by the MSS in Region 2 is limited to satellite networks which are both in the FSS and MSS.

<sup>3</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, *Third Notice of Proposed Rulemaking*, 11 FCC Rcd 53 (1995), 60 FR 43470 (August 23, 1995) (*Third NPRM*).

<sup>4</sup> See 47 CFR 25.114, 124.140, and 25.210.

<sup>5</sup> See In the Matter of 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*, 11 FCC Rcd 19005 (1996), 61 FR 39425 (July 29, 1996) (Fourth Notice), 61 FR 44177 (August 28, 1996) (Final Rule), (*28 GHz First Report and Order*). This decision is subject to petitions for reconsideration. The band plan is depicted graphically and discussed in more detail in ¶¶ 39–49, *infra*.

MHz of primary and co-primary uplink spectrum and 1600 MHz of primary and co-primary downlink spectrum to GSO FSS systems; 500 MHz of primary uplink and 500 MHz of primary downlink spectrum to NGSO FSS systems; and 1000 MHz of primary and co-primary spectrum to LMDS. The *Fourth NPRM* proposing an additional 300 MHz for LMDS at 31.0–31.3 GHz was also adopted.<sup>6</sup>

3. The provisions set forth in part 25 of the Commission's rules, in general, govern the licensing of the fixed-satellite service systems. This includes commercial FSS systems in the Ka-band. The rules impose fairly rigorous financial and technical requirements on commercial FSS applicants. In this *Report and Order*, we modify these rules to incorporate technical operations at the Ka-band. Further, the part 25 FSS rules were developed in an environment where we regularly receive more applications than we can accommodate. Here the GSO FSS licensees have agreed to an orbital assignment arrangement that will support them all, and we were able to accommodate one NGSO FSS system with room for future entry. Accordingly, as discussed below, we believe it is in the public interest to waive the financial qualification rule sections in processing this round of Ka-band applications in order to allow for maximum entry.

#### *Financial Qualifications*

4. Historically, the Commission has fashioned financial requirements for satellite services on the basis of entry opportunities in the particular service being licensed. In cases where we can accommodate all pending applications and future entry is possible, we have not looked to current financial ability as a prerequisite to a license grant. This is 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>7</sup> We ensure that licensees timely build their systems by requiring them to meet specified implementation milestones. In contrast, where applications for satellites exceed the number of satellites

<sup>6</sup> See *28 GHz First Report and Order* at ¶¶ 95–104.

<sup>7</sup> See, e.g., Radiodetermination Satellite Service, 104 FCC 2d 650 (1986), 51 FR 18444 (May 20, 1986), as corrected, 51 FR 20975 (June 10, 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*, at ¶ 26, 9 FCC Rcd 5936 (1994), 59 FR 53294 (October 21, 1994) (*Big LEO Report and Order*).

we can accommodate, we have adopted a standard that requires applicants to demonstrate evidence of internal assets or committed financing sufficient to cover construction, launch, and first year operating costs of its entire system.<sup>8</sup> This is based on our experience that under-financed applicants have significant difficulty in the capital markets in raising hundreds of millions of dollars needed to construct and launch a satellite system, even with a license in hand.<sup>9</sup> Requiring evidence of full financing therefore prevents a licensee from holding spectrum while it attempts to procure financing, to the detriment of qualified applicants that can immediately go forward with systems and provide service to the public. We require FSS operators to meet this strict standard because the number of applications we receive in the traditional C- and Ku-band FSS frequencies regularly exceeds the number we can authorize.<sup>10</sup>

5. When we proposed to apply the existing FSS financial requirement to 28 GHz FSS systems, the GSO applicants had not yet agreed to an orbital assignment arrangement that would accommodate them all. In light of their plan, we can grant all of the first round GSO FSS applications, with other "clear" orbit locations remaining available for additional GSO FSS satellites. Further, granting Teledesic's NGSO FSS system application does not preclude future Ka-band NGSO FSS systems. Thus, authorizing all proposed first-round systems does not preclude use of this band by other applicants for FSS systems. We therefore will waive the FSS financial requirement for first-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. Further, 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.

#### *Technical Qualifications*

6. Applicants for satellite systems must also meet certain technical qualification standards. The Ka-band offers several technical advantages that allow for the implementation of broadband, high capacity FSS applications that otherwise could not be provided in the C- or Ku-bands. For example, the shorter wavelengths in this higher frequency band support the use of transmit-receive earth station antennas significantly smaller than those now in use. They also support significantly smaller satellite spot beams that facilitate frequency reuse, and wider bandwidth and high data rate services.<sup>11</sup> However, operations at the Ka-band frequencies are also very susceptible to rain fade and other atmospheric attenuations.

7. Many commenters urge the Commission to confirm that the Commission's existing FSS technical requirements and policies apply to satellite systems in the Ka-band.<sup>12</sup> As indicated previously, we will, in general, apply existing FSS rules, including technical qualifications requirements, to commercial satellite systems in the Ka-band. In the following text, we discuss modifications or clarifications to several rules that we adopt to accommodate efficient and state-of-the art use of the Ka-band.

#### *GSO Specific Requirements*

8. The Commission's rules currently require that an applicant for a GSO FSS space station authorization demonstrate how the proposed space station complies with 2 degree orbital spacing requirements. 47 CFR 25.140. In the *Third NPRM*, we proposed to apply 2 degree spacing to the Ka-band and requested comment on this proposal. This proposal was supported by several commenters.<sup>13</sup> GE, in fact, suggested that the Commission explore the possibility of 1 degree spacing in the Ka-band.<sup>14</sup> NetSat28, in contrast, argued that the characteristics of this higher frequency band and the innovative technology proposed for this band support a different approach to orbital spacing, specifically, 8 degree spacing.<sup>15</sup> However, the orbit assignment plan submitted by the GSO applicants,

including NetSat28, spaces their satellites at 2 degree intervals.

9. We believe it is in the public interest, as we establish the Ka-band satellite service, to continue our policy of maximizing the number of satellites that can be accommodated in orbit. If we were to move to GSO orbital arc spacing greater than 2 degrees at this time, we would not be able to accommodate all potential service providers in this first processing round. By submitting a plan using 2 degree spacing, the GSO satellite applicants suggest they can implement viable systems with these spacings. Further, there is nothing in the record to support a finding that one degree spacing, with its increased potential for interference, is feasible at this time. Consequently, we will apply the existing 2 degree spacing policy to U.S. licensed non-Government Ka-band orbital assignments.

10. To accommodate maximum entry while facilitating efficient use of in-orbit resources, we limit, in part 25, the number of orbit locations a qualified FSS applicant may be initially assigned.<sup>16</sup> Historically, this limitation pertained to the provision of domestic FSS in the United States, the objectives being 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>17</sup> Many of the systems proposed in the Ka-band propose to serve geographic areas around the world. In addition, the applicants have also agreed to an arrangement that accommodates all proposed satellites. We also licensed thirteen different GSO FSS system providers in the band and expect that there will be a mix of competitors for services in the band. We believe it is in the public interest to allow these systems, especially those proposing to serve different geographic areas, to proceed as proposed at this point. Therefore, we will waive, for this processing round only, any rules that limit the number of orbit locations that may be assigned to any applicant.

11. We have long recognized the cost benefits in implementing several service bands on a single space platform. Consequently, as we do with C- and Ku-band satellites, we will permit Ka-band licensees to build hybrid satellites where they are assigned to corresponding C- and Ka-band, or Ku-band and Ka-band orbit locations,

<sup>8</sup> See 47 CFR 25.140(b)-(e).

<sup>9</sup> See, e.g., National Exchange Satellite, Inc., 7 FCC Rcd 1990 (Com. Car. Bur. 1992); Rainbow Satellite, Inc., Mimeo No. 2584 (Com. Car. Bur., released Feb. 14, 1985); United States Satellite Systems, Inc., Mimeo No. 2583 (Com. Car. Bur., released Feb. 14, 1985) (domestic satellite licenses declared null and void for failure to begin implementation as required by license). In addition, Geostar Corporation, a start-up company licensed in the radiodetermination satellite service, declared bankruptcy nearly five years after its licenses were issued. It had not built any of its dedicated satellites.

<sup>10</sup> Licensing Space Stations in the Domestic Fixed-Satellite Service, FCC 85-395, CC Docket No. 85-135 (released August 29, 1985), 50 FR 36071 (September 5, 1985).

<sup>11</sup> See, e.g., Comments of Hughes at 7.

<sup>12</sup> See, e.g., Comments of GE at 20-21 and Hughes at 35-36.

<sup>13</sup> See, e.g., Comments of Hughes at 35-36; GE Americom at 20.

<sup>14</sup> Comments of GE at 20.

<sup>15</sup> Reply Comments of NetSat28 at 2.

<sup>16</sup> See 47 CFR 25.140(f).

<sup>17</sup> See Licensing Space Stations in the Domestic Fixed-Satellite Service, 50 FR 36071 (September 5, 1985).

provided all other technical and service requirements for the particular band are met. Any licensee that wishes to consolidate co-located satellites into a hybrid satellite must file an application to modify its underlying licenses.

#### *NGSO Specific Requirements*

12. In the *Third NPRM*, we asked whether spectrum efficiency or service availability standards should be adopted for NGSO FSS systems in the Ka-band. Teledesic was the only party who filed timely comments regarding NGSO FSS service rule issues.

13. Teledesic suggests that the Commission consider adopting some minimum domestic and international geographic coverage requirements to ensure that NGSO FSS satellite systems, which are inherently global in nature, provide universal access throughout the U.S. and the world.<sup>18</sup> We agree that NGSO FSS systems are capable of fostering a seamless global communications network and we believe that it serves the public interest to adopt a coverage area requirement for these systems. Consequently, we are adopting the same coverage requirements for 28 GHz systems that we apply to "Big LEO" systems operating in the 1610–1626.5 / 2483.5–2500 MHz bands.<sup>19</sup> Specifically, we will require 28 GHz NGSO FSS systems to be capable of serving locations as far north as 70 degrees latitude and as far south as 55 degrees latitude for at least 75% of every 24-hour period. We will also require 28 GHz NGSO FSS systems to be capable of providing FSS on a continuous basis throughout the fifty states, Puerto Rico, and the U.S. Virgin Islands.

14. As always, we seek to foster a climate that maximizes competition and promotes multiple entry of systems. Resolution 118 (WRC-95) requests that the ITU-R study, among other things, the sharing between NGSO FSS networks in the Ka-band. ITU-R Working party-4A studies have identified, and the Commission recognizes, two sharing scenarios: (1) sharing between or among "homogeneous" NGSO FSS systems, and (2) sharing between or among "non-homogeneous" NGSO FSS systems. "Homogeneous" NGSO FSS systems are assumed to have orbits with approximately the same altitude and high inclination angle. Similar technical parameters are not assumed for "non-homogeneous" NGSO FSS systems. Under scenario (1), sharing between

multiple "homogeneous" NGSO FSS systems is feasible by interleaving the orbital planes of different NGSO FSS constellations. It may also be possible to interleave satellites from different constellations within the same orbital plane. Because each constellation's satellites are separated spatially under scenario (1), there is no "in-line" interference between NGSO FSS systems, except near the polar regions. This particular sharing scenario requires minimum interaction between the different NGSO FSS systems. ITU-R studies assert that multiple "homogeneous" NGSO FSS systems can be accommodated using these methods. However, it is important to note that sharing between or among "homogeneous" systems imposes similar uniform design constraints on subsequent NGSO FSS systems implemented in the same frequency bands.<sup>20</sup>

15. A second sharing scenario exists between or among "non-homogeneous" NGSO FSS systems. Because of the inherently large number of orbital plane crossings, it is not possible to maintain spatial separation between satellites in multiple NGSO FSS constellations.<sup>21</sup> Consequently, other types of mitigation techniques (e.g., exclusion zones, satellite diversity, or high gain antennas) would need to be employed by each NGSO FSS system. The Commission also recognizes that further division of the spectrum, which would result in a reduction of each system's capacity, is also a feasible alternative if sharing proves to be unacceptable to any particular NGSO FSS system.

16. We are not now in a position to determine exactly how many non-Government NGSO FSS systems, and in particular, how many "non-homogeneous" type systems, will be able to operate in the 18.8–19.3/28.6–29.1 GHz bands. Further, we note that many satellites undergo design changes during implementation that could facilitate sharing among systems. Additionally, second generation systems usually become more efficient, further facilitating the operation of multiple systems. Consequently, we will not now mandate any specific sharing principles or mitigation techniques to be used in coordination between or among non-Government NGSO FSS systems. However, we expect all non-Government NGSO FSS systems to be responsible for some portion of the

burden-sharing. Specifically, we expect all NGSO FSS licensees to bear some portion of the technical and operational constraints necessary to accommodate multiple "non-homogeneous" NGSO FSS systems. In apportioning burden, it may be appropriate to consider factors such as whether a particular NGSO FSS satellite is already in-orbit and operational. If NGSO FSS non-Government systems are unable to share spectrum, another feasible alternative is to further divide the spectrum designated in the United States for non-Government NGSO FSS systems, between or among licensed operators. We will evaluate all applications for NGSO FSS systems on a case-by-case basis, revisiting the multiple entry issue, as necessary, as we gain more experience with NGSO FSS systems.

#### *Implementing the Band Plan Domestically*

17. The 28 GHz band plan designates domestic licensing priority for certain non-Government services or systems in specific band segments. We designated co-frequency sharing between services or systems only in band segments where the Commission and the parties concluded it is technically feasible. In the *28 GHz Band First Report and Order* we further designated domestic licensing priority for certain types of fixed-satellite services with respect to other types of fixed-satellite services in specific band segments. For example, in the 28.35–28.60 GHz band segments, GSO FSS systems have licensing priority over NGSO FSS systems, and in the 28.6–29.1 GHz segment, NGSO FSS systems have licensing priority over GSO FSS systems. This licensing priority between systems in the same service has a similar interpretation as a "secondary" service with respect to a "primary" service.<sup>22</sup> Accordingly, we will require any service provider proposing to operate in a band segment in which it does not have licensing priority, to operate on an unprotected non-interference basis to the priority service. To ensure non-interfering operations, we will require all secondary operators to submit to the

<sup>22</sup> "Secondary" generally refers to a category of service with respect to other radio services. Stations of a secondary service shall not cause harmful interference to stations of primary or permitted services; cannot claim protection from harmful interference from stations of a primary or permitted service, but can claim protection from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date. See 47 CFR 2.104(d); 47 CFR 2.105(c)(3). As a general matter, the Commission does not coordinate secondary operations with respect to primary or permitted services.

<sup>20</sup> Design constraints include limitations on the number of orbital planes, orbital plane inclination, orbit altitude, and earth station antenna patterns.

<sup>21</sup> "In-line" interference occurs when satellites from separate NGSO FSS systems operate in the region where each system's orbital planes cross.

<sup>18</sup> Comments of Teledesic at 28.

<sup>19</sup> See *Big LEO Report and Order* at ¶ 24; 47 CFR 25.143(b)(2)(ii); (b)(2)(iii).

Commission a technical demonstration that it can operate on a non-harmful interference basis to the type of satellite system with licensing priority. This technical demonstration will be subject to public comment before we authorize any secondary operations in the bands. In addition, we will require secondary users to immediately cease operations upon notification of harmful interference into any service or system that has superior status or licensing priority in a particular band segment.

18. Further, all licensees must coordinate with the U.S. Government systems authorized in the 17.80–20.20 GHz band, in accordance with U.S. footnote 334 in the Table of Frequency Allocations. U.S. footnote 334 reads as follows: "In the band 17.80–20.20 GHz, Government space stations and associated earth stations in the fixed-satellite (space-to-Earth) service may be authorized on a primary basis. For a Government geo-stationary satellite network to operate on a primary basis, the space station shall be located outside the arc measured from East to West, 70° W to 120° W. Coordination between Government fixed-satellite systems and non-Government systems operating in accordance with the United States Table of Frequency Allocations is required."<sup>23</sup>

19. The 18.8–19.3 GHz band is designated for non-Government NGSO FSS use on a co-primary basis with the fixed service and with Government services. We require NGSO FSS systems to coordinate with any existing and future point-to-point fixed systems in the band.<sup>24</sup> We also designated NGSO FSS on a secondary priority basis in the 17.7–18.8 and 19.7–20.2 GHz band segments. As a secondary user, NGSO FSS operators shall not cause harmful interference to stations of a primary service, or higher priority FSS system, nor can they claim protection from harmful interference from stations of a primary service, or higher priority FSS system. NGSO FSS systems must also coordinate with the Government systems operating in the band 18.8–19.3 GHz in accordance with U.S. footnote 334.

<sup>23</sup> See 47 CFR 2.106 U.S. footnote 334.

<sup>24</sup> We note, however, that in a separate proceeding we have relocated a fixed service, the Digital Electronic Message Service ("DEMS") from the 18.82–18.92 and 19.16–19.26 GHz bands to the 24.25–24.45 and 25.05–25.25 GHz bands. See Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz band to the 24 GHz band and To Allocate Band For Fixed Service, 12 FCC Rcd 3471 (1997), 62 FR 24576 (May 6, 1997). This Order is subject to petitions for reconsideration.

#### Earth Station Licensing

20. We anticipate making changes to our existing part 25 requirements for earth stations in the C- and Ku-bands to take into account operations at Ka-band. In fact, four GSO satellite applicants have submitted a petition for rulemaking to the Commission.<sup>25</sup> The Petitioners request that the Commission institute a rulemaking proceeding to revise part 25 of the Commission's rules, 47 CFR § 25.101, in order to provide for the routine licensing of large numbers of small antenna earth stations operating in the 19.7–20.2/29.5–30.0 GHz bands for GSO FSS. Teledesic supports the Petition and further suggests the scope of the rulemaking be expanded to include the entire available Ka-band frequencies.<sup>26</sup>

#### Inter-Satellite Service

21. Many system proponents in the Ka-band propose to use inter-satellite service (ISS) frequencies to interconnect satellites within their respective networks.<sup>27</sup> These proposed bands include the 22.55–23.55 GHz/32.0–33.0 GHz/54.25–58.2 GHz and 59–64 GHz bands.

22. One licensee, Hughes, proposes to use the 22.55–23.55 GHz and 32.0–33.0 GHz bands for some of its inter-satellite links. These bands are shared on a co-equal basis with U.S. Government operations. In addition, one of the "Big LEO" systems is licensed to operate inter-satellite links in the 22.55–23.55 GHz band. Any 28 GHz systems licensed to operate inter-satellite links in these bands would be required to coordinate with U.S. Government systems through the Frequency Assignment Subcommittee (FAS) of the Inter-Governmental Radio Advisory Committee (IRAC) and with other non-Government licensees in the band. At this time, we defer action on any authorizations in the 22.55–23.55 and 32.0–33.0 GHz bands until we receive more information on the specific frequencies Hughes needs for its system and we have coordinated with the Government.

23. The Commission and the National Telecommunications and Information Administration (NTIA), which has primary jurisdiction over Government use of spectrum, have had discussions regarding the potential for interference

<sup>25</sup> See Routine Licensing of Large Numbers of Small Antenna Earth Stations Operating in the Ka-Band, Petition for Rulemaking, RM-9005, submitted December 20, 1996, by: GE, Loral, Lockheed Martin and Hughes.

<sup>26</sup> See Comments of Teledesic at 3.

<sup>27</sup> See Applications of EchoStar, Ka-Star, Lockheed Martin, Hughes, Loral, Comm. Inc., and Teledesic.

that would be associated with non-Government GSO or NGSO FSS operations in the 54.25–58.2 GHz and 59–64 GHz bands. The 54.25–58.25 GHz band appears more promising for the inter-satellite service to support non-Government GSO FSS operations. We are also working with NTIA to develop a U.S. proposal to WRC-97 for an allocation in the 65–71 GHz band for inter-satellite service links for both GSO and NGSO FSS systems.<sup>28</sup> We are optimistic that we will obtain sufficient spectrum internationally to support Ka-band system inter-satellite link operations. Nevertheless, we did not delay issuing licenses pending the allocation of suitable spectrum for inter-satellite links. Once suitable spectrum is available, we will require licensees to apply for operating authority on specific operating frequencies. Further, because licensees will not be able to proceed beyond the initial phases of construction until the inter-satellite link issues are resolved, we did not impose any system implementation milestones until we grant authority to launch and operate individual systems using specific inter-satellite link spectrum. We will hold all licensees to the strict milestone schedule discussed above, once the respective inter-satellite frequencies are authorized. In the interim, all licensees are free to begin construction at their own risk. We recently waived the construction permit requirement for space stations. This decision, effective April 21, 1997, means that applicants no longer need Commission authorization in order to build their proposed satellites. Any construction prior to obtaining an operating license is, however, solely at the applicant's own risk and will not predispose the Commission to grant it launch and operating authority.<sup>29</sup>

#### Service Rules

24. In our *DISCO I Order*, we determined that all fixed-satellite operators in the C-band and Ku-band could elect to operate on a common carrier or non-common carrier basis.<sup>30</sup> We see no reason to treat satellite

<sup>28</sup> See "United States Proposals No. 209 and No. 210 for the Work of the Conference" (August 1997).

<sup>29</sup> See Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures, *Report and Order*, 11 FCC Rcd 21581 (1996), 62 FR 5924 (February 14, 1997) (*Part 25 Streamlining*).

<sup>30</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), 61 FR 9946 (March 12, 1996) (*DISCO I Order*).

operators in the Ka-band any differently. The Commission traditionally has evaluated requests to operate on a non-common carrier basis using the analysis set forth in *National Association of Regulatory Utility Commissioners v. FCC*,<sup>31</sup> (*NARUC I*). Under *NARUC I*, we may regulate an entity as a private carrier unless: (1) there is or should be any legal compulsion to serve the public indifferently; or (2) there are reasons implicit in the nature of the service to expect that the entity will in fact hold itself out indifferently to all eligible users.

25. Several of the Ka-band FSS applicants propose to operate all services on a non-common carrier basis.<sup>32</sup> Regarding the first prong of *NARUC I*, we do not see any legal compulsion to require any space station licensee in the Ka-band to operate on a non-common carrier basis. We have already determined there is sufficient competitive capacity available in the C- and Ku-bands to assure the U.S. public ample access to fixed-satellite services.<sup>33</sup> In addition, we have licensed thirteen GSO FSS systems and one NGSO FSS system in the Ka-band which propose to offer a wide variety of broadband voice, data and video services to the U.S. domestic consumer.

26. Regarding the second prong of *NARUC I*, we find there is little likelihood that such Ka-band licensees will hold themselves out indifferently to serve the public. New Ka-band offerings can be tailored to provide a broad array of specialized communications services ranging from videoconferencing to telemedicine; and these services may be styled to accommodate highly individualized methods of operation and demands of potential customers. We believe permitting Ka-band licensees to offer services on a non-common carrier basis is in the public interest.

#### Implementation Milestones

27. We will require each GSO FSS licensee to begin construction of its first satellite within one year of grant, to begin construction of the remainder within two years of grant, to launch at least one satellite into each of its assigned orbit locations within five years of grant, and to launch the

remainder of its satellites by the date required by the International Telecommunication Union to assure international recognition and protection of these satellites.<sup>34</sup> For NGSO FSS systems, we adopt the same implementation schedule as we did for the Big LEOs.<sup>35</sup> Specifically, we will require NGSO FSS licensees to begin construction of its first two satellites within one year of the unconditional grant of its authorization, and complete construction of those first two satellites within four years of that grant. Construction for the remaining authorized operating satellites in the constellation must begin within three years of the initial authorization, and the entire authorized system must be operational within six years.

#### Reporting Requirements

28. We will also follow the new part 25 rules for reporting requirements for FSS systems.<sup>36</sup> Specifically, a licensee will be required to file an annual report with the Commission describing: the status of satellite construction and anticipated launch dates, including any major problems or delays encountered; a listing of any non-scheduled transponder (GSO FSS) or satellite (NGSO FSS) outages for more than 30 minutes; and the cause(s) of such outages; and a detailed description of the utilization made of each transponder (GSO FSS) or satellite (NGSO FSS) on each of the in-orbit satellites.<sup>37</sup>

#### International Operations

29. The United States is under a treaty obligation, in connection with its membership in the ITU, to coordinate all U.S. authorized services internationally. 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 technical

agreements are negotiated and reached among countries to ensure interference-free operations of the planned satellites, and (3) notification, where 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.

30. We have advance published GSO and NGSO FSS systems and have initiated coordination with the ITU. We have also submitted notification information for a NGSO FSS system.<sup>38</sup> To facilitate these processes, we will continue to require licensees to provide us with all of the information required to complete the coordination and notification process.

31. The NTIA may authorize Government GSO FSS and NGSO FSS operations on a primary basis in the band 17.8–20.2 GHz in accordance with US footnote 334. Where international coordination is required for these Government systems, the NTIA will separately coordinate the Government GSO and NGSO operations in accordance with the appropriate ITU regulations.

32. Because the 28 GHz band is allocated and used worldwide for a variety of technically incompatible terrestrial and satellite services, we expect that international coordination of our 28 GHz band non-Government systems will be complex. Specifically, the 27.5–30.0/17.7–20.2 GHz bands are allocated domestically and internationally to the fixed service, which includes LMDS, and to the FSS, which includes both GSO and NGSO operations. MSS system feeder link operations may also be provided under FSS allocations. As we discussed previously in paragraph 6, we have determined the only way to address these conflicting allocations and proposed usage was to adopt a band plan that, in essence, divides the 27.5–30.0/17.7–20.2 GHz band into several band segments, each of which is to be used primarily for LMDS, GSO FSS, NGSO FSS, or MSS feeder link operations.<sup>39</sup> As explained below, we believe it is in the public interest to use this plan as the basis for coordinating U.S. licensed 28 GHz band satellite systems internationally. We outline herein the procedures we intend to

<sup>31</sup> *National Ass'n of Regulatory Utility Commissioners v. FCC*, 525 F.2d 630 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976); 47 U.S.C. § 153(44).

<sup>32</sup> *But see* EchoStar Satellite Corporation Application for Authority to Construct, Launch, and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, *Order and Authorization*, DA 97-969, (released May 9, 1997). EchoStar proposes to operate its system on a common carrier basis.

<sup>33</sup> See DISCO I Order at ¶ 46.

<sup>34</sup> ITU Regulations require that all satellites must be brought into use no later than six years from the date on which the Appendix 4 information for that satellite was filed. However, a request for a three-year extension of time may be granted. The Appendix 4 information for 28 GHz GSO systems was filed in November 1995. Therefore, all satellites we have authorized to operate in the 28 GHz spectrum must be launched by November 2004.

<sup>35</sup> See *Big LEO Report and Order* at ¶ 189.

<sup>36</sup> See *Part 25 Streamlining*, *supra*, n. 29.

<sup>37</sup> See 47 CFR § 25.210(j)(1)(2)(3).

<sup>38</sup> Because coordination procedures were not in place for NGSO FSS satellite systems at the time the Appendix 3 information was filed, it was possible for certain NGSO FSS and NGSO MSS feeder link systems to move from the advance publication (step 1) process to the notification (step 3) process.

<sup>39</sup> See *Report and Order*, ¶¶ 39-49.

follow for coordinating U.S.-licensed non-Government satellite systems with each other in other parts of the world. In addition, we outline the procedures we will generally follow when coordinating U.S.-licensed non-Government 28 GHz satellite systems with both satellite and terrestrial systems licensed by other countries. At the same time, we recognize that other countries are able to implement their systems in accordance with their domestic requirements and the International Radio Regulations.

33. Because we have licensed multiple non-Government 28 GHz satellite systems and several of these systems are designed to operate on a global basis, we will likely be faced with the responsibility of coordinating the international operations of two or more non-Government satellite systems with each other.<sup>40</sup> The record in this proceeding does not support a finding that sharing between ubiquitous non-Government GSO and NGSO FSS systems is technically feasible at this time without mitigation.<sup>41</sup> This was the impetus for adopting a band sharing plan at 28 GHz that designated separate band segments for primary GSO FSS, NGSO FSS and feeder link operations. Due to the potential coordination difficulties that may lead to delay of services, we believe it is in the public interest to require U.S. non-Government licensees to operate in accordance with our 28 GHz band plan throughout the world, with certain exceptions as described below. Without such a requirement, we believe we would jeopardize the successful operation of these systems outside of the United States.

34. In the Big LEO proceeding, where we also adopted service rules for U.S. global satellite systems, we did not require non-Government licensees to operate in accordance with the domestic band plan outside the United States.<sup>42</sup> This approach resulted in significant delay in the implementation of their systems, however. Eventually, the Big LEO licensees determined that in order for each system to operate on a global basis without coordination conflicts amongst themselves, the best way was to conform their international operations to the domestic band plan set

out in the *Big LEO Report and Order*. Our experience in the Big LEO proceeding leads us to believe that it is in the public interest to adopt a policy now for coordination of these U.S. licensed global non-Government systems in the 28 GHz band to ensure that coordination can proceed and services can be provided to the public in a timely manner.<sup>43</sup>

35. While we envision coordinating U.S. licensed non-Government systems in accordance with the 28 GHz band segmentation plan throughout the world, we recognize that there will be some exceptions. For example, due to the need to accommodate non-U.S. satellite systems that had entered into the ITU advance publication, coordination and notification processes before the U.S. systems, the United States has negotiated agreements with other administrations to permit operation of specific satellite systems in certain geographic areas in frequency bands that are not entirely in conformance with the U.S. 28 GHz band plan. Accordingly, we will adhere to any coordination or consultation agreements that were initiated before the 28 GHz band plan was adopted in July 1996. In addition, these non-conforming arrangements could potentially impact how we decide to coordinate U.S. non-Government satellite systems in other portions of the 28 GHz band. For example, we may seek to make up for some of the spectrum "lost" to these systems in the agreement in other portions of the band. We anticipate that these deviations from our band plan will be the rare exception for the implementation of the U.S. band plan by U.S. non-Government satellite system licensees worldwide.

36. Last, the U.S. band plan does not distinguish between GSO and NGSO FSS systems as secondary users to LMDS in the 27.5 to 28.35 GHz uplink band. Rather, generic FSS is designated as the secondary service in the U.S. We envision only limited FSS uplink operations, such as gateway operations, will be able to operate on a non-interference basis to LMDS in the United States. In those cases where other countries use the 27.5–28.35 GHz band segment for FSS, we intend to provide U.S. non-Government GSO FSS systems with coordination priority over

U.S. non-Government NGSO FSS systems in this band. This is because the U.S. band plan designates the corresponding downlink frequency band at 17.7–18.8 GHz on a priority basis to the GSO FSS, with NGSO FSS operations on a non-interference basis only to any service or system that has superior status or licensing priority. If the uplink frequencies are not treated in a similar manner, the downlink designation would be meaningless. We do not believe this to be the intended result of the band plan. We will therefore give priority to U.S. GSO systems vis-a-vis U.S. NGSO systems at 27.5–28.35 GHz.

37. Therefore, as the coordinating administration for these systems, we will require any U.S. non-Government satellite system operating inconsistently with the U.S. 28 GHz band plan—and, by definition, its coordinated parameters—to cease operations if it causes harmful interference to any U.S. non-Government system operating in conformance with the U.S. band plan for non-Government systems, or to any U.S. Government system operating in accordance with US footnote 334. (The non-Government band plan is not applicable for GSO and NGSO Government operations which are authorized on a primary basis across the 17.8–20.2 GHz band.)

38. In coordinating U.S.-licensed non-Government systems with systems of other Administrations, we will, as always, follow the applicable coordination procedures set out in the ITU Radio Regulations for the particular band segment being coordinated. For example, satellite system coordination may implicate ITU Radio Regulation No. S22.2 (2613) for instances where NGSO FSS systems and GSO FSS systems are proposed. This regulation applies in certain segments of the 28 GHz band and requires, in those bands, that NGSO FSS systems cease or reduce to a negligible level their operations whenever there is unacceptable interference caused to a GSO FSS system. Consequently, in coordinating and consulting U.S. non-Government FSS systems with other countries' FSS systems in bands where this provision applies, we expect that consultations or coordinations between administrations will result in operational or technical considerations which will prevent unacceptable interference to GSO FSS systems. In bands where there is a primary allocation to the fixed service and FSS, we will coordinate U.S. satellite system operations on an equal basis to the fixed stations, consistent with established ITU Radio Regulations and Recommendations.

<sup>40</sup> This does not include the coordination of earth stations accessing U.S.-licensed systems, since these earth stations belong to the administration where the earth station is located.

<sup>41</sup> However, satisfactory ways of co-frequency sharing by NGSO FSS and GSO FSS networks can be found where the burden is placed on either the GSO or NGSO network. Mitigation techniques to reduce interference can be evaluated through the coordination process.

<sup>42</sup> See *Big LEO Report and Order* at ¶ 231.

<sup>43</sup> See *ex parte* filing of Lockheed Martin filed (May 7, 1997) at 8, supporting this policy: "Now that the 28 GHz band plan has been adopted in the United States, the Commission staff is considering applying the same frequency plan, including specific licensing priorities (*i.e.*, "primary" and "secondary" designation), to the operation of U.S. licensed satellites abroad. Lockheed Martin supports the adoption of such measures."

39. The Commission can authorize operations of satellite systems in the United States only. Operation and use of these systems in geographic areas outside the United States requires appropriate authorizations from other countries in which the U.S. licensee wishes to operate earth stations. In order to ensure that Ka-band satellite service is truly global, we adopt limitations on Ka-band licensees' ability to enter into exclusive arrangements with other countries concerning communications to or from the United States similar to those in place for Big LEO systems.<sup>44</sup> An exclusive agreement may foreclose other FSS licensees from serving a foreign market, preventing that licensee from providing global service. Further, such an arrangement may be inconsistent with our band plan. We intend to construe the restrictions on exclusionary arrangements bearing in mind that spectrum coordination and availability in particular countries may limit the number of systems that can provide service to that country. Nevertheless, our intent will be to further the implementation and use of multiple satellite systems in other administrations.

#### Other Requirements

40. To discourage speculators and to prevent unjust enrichment of those who do not implement their proposed systems, we adopt a rule that prohibits any Ka-band licensee from selling a bare license for a profit. This provision is not intended to prevent the infusion of capital by either debt or equity financing. Nevertheless, any such transaction will be monitored to ensure that it does not constitute an evasion of the anti-trafficking provision.<sup>45</sup>

#### Final Regulatory Flexibility Analysis

41. As required by the Regulatory Flexibility Act, (RFA),<sup>46</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Third NPRM* in this proceeding. The Commission sought written public comment on the

<sup>44</sup> See Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610–1626.5/2483.5–2500 MHz frequency band, *Memorandum Opinion and Order*, 11 FCC Rcd 12861 (1996) at ¶¶ 54–55, 61 FR 9944 (March 12, 1996); 47 CFR 25.143(h) (prohibiting Big LEO licensees from entering into exclusive arrangements to serve particular countries).

<sup>45</sup> See *Big Leo Report and Order* at ¶ 203; 47 CFR § 25.143(h) (prohibits Big LEO licensees from selling a bare license for profit).

<sup>46</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601 *et seq.*, has been amended by the Contract with America Advancement Act of 1996, Pub. L. 104–121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

proposals in the *Third NPRM*, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA), concerning the *Third Report and Order*, conforms to the RFA.<sup>47</sup>

#### I. Need for and Objectives of the Third Report and Order

42. In this decision, the Commission, adopts licensing qualification rules and service rules for fixed-satellite service systems in the Ka-band. The purpose of this action is to help launch a new broadband satellite service well-suited to compete in the domestic and global marketplace. In order to ensure the rapid and successful implementation of new FSS systems in the Ka-band, the Commission has used the existing FSS system rules as a foundation and has modified these rules to the extent necessary to reflect the nature of operations at Ka-band. The decision promotes efficiency in licensing and use of the electromagnetic spectrum. In addition we expect that the licensing framework we have set out for the Ka-band will aid in the development of competitive and innovative satellite systems.

#### II. Summary of Significant Issues Raised by Public Comments in Response to the Initial Regulatory Flexibility Analysis

43. No comments were received specifically in response to the IRFA. However, in order to minimize any barriers for entry into this new satellite market for small entities, Commission staff spent months encouraging and working with all of the commercial GSO FSS applicants to reach agreement on an orbital assignment plan to accommodate all first-round applicants. As discussed in the *Third Report and Order*, the applicants did reach agreement regarding orbit locations. Therefore we are able to waive our financial qualification requirement and not look to current financial ability as a prerequisite to a license grant. By licensing all current commercial system applicants, we enable small entities and start-up companies the opportunity to compete in the capital intensive satellite industry.

#### III. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

44. The Commission has not developed a definition of small entities applicable to satellite service licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA)

<sup>47</sup> See 5 U.S.C. § 604.

rules applicable to Communications Services "Not Elsewhere Classified." This definition provides that a small entity is expressed as one with \$11.0 million or less in annual receipts.<sup>48</sup> According to the Census Bureau data, there were a total of 848 communications services in operation in 1992 that fall under the category of Communications Services, Not Elsewhere Classified. Of those, approximately 775 reported annual receipts of \$9,999 million or less and qualify as small entities.<sup>49</sup> The census report does not provide more precise data.

45. Describing and estimating the number of small entities these rules will impact is made difficult by a number of factors. First of all, information from the Satellite Industry Association and financial analysts who specialize in this market indicate there are few firms that could be traditionally thought of as small businesses. They point to the fact that this is a capital intensive industry that requires "significant partner funding and/or contract commitments prior to approaching commercial financing sources."<sup>50</sup> In addition, estimates of employment in the commercial satellite service industry, another measure of small business status, can vary widely.<sup>51</sup>

46. Space Stations (Geostationary). Commission records reveal that there are 37 space station licensees. We do not request nor collect annual revenue information, and thus are unable to estimate the number of geostationary space stations that would constitute a small business under the SBA definition.

47. Space Stations (Non-Geostationary). There are six Non-Geostationary Space Station licensees, of which only one system is operational. We do not request nor collect annual revenue information, and thus are unable to estimate the number of non-geostationary space stations that would constitute a small business under the SBA definition.

48. We have also recently authorized thirteen commercial GSO FSS satellite systems in the Ka-band and one

<sup>48</sup> 13 CFR 121.201, Standard Industrial Classification (SIC) Code 4899.

<sup>49</sup> 1992 *Economic Census Industry and Enterprise Receipts Size Report*, Table 2D, SIC 4899 (U.S. Bureau of the Census data under contract to the Office of Advocacy of the U.S. Small Business Administration).

<sup>50</sup> See "Financing the Final Frontier: Funding Commercial Space Activities" Bear Stearns, Global Space & Satellite Finance Report.

<sup>51</sup> For example, American Mobile Satellite Corp is reported to have 45 employees by the Satellite Industry Association; 317 employees by Satellite Industry Analyst "BZW."

commercial NGSO FSS system to construct, launch, and operate in the Ka-band, conditioned on compliance with the licensing and service rules we adopt in this *Third Report and Order*. Therefore there are no small businesses currently providing these types of broadband interactive services in the Ka-band.

#### IV. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

49. The Commission's existing rules in part 25 on FSS operations contain reporting requirements for FSS systems. In this *Third Report and Order*, we adopt no new reporting requirements for FSS operations in the Ka-band and state that we will follow the new part 25 rules for reporting requirements for FSS systems.<sup>52</sup> These requirements are specifically stated in paragraph 60 of the *Third Report and Order*. It is likely that the entities filing the reports will require no professional skills for the preparation of such requests.

#### V. Steps Taken To Minimize Significant Economic Burden on Small Entities, and Significant Alternatives Considered

50. As part of our licensing qualifications standard for the FSS, the Commission has in the past applied rigorous financial qualification standards when the authorization of one applicant will not prevent another qualified applicant from going forward with a proposal in the same service. In the *Third NPRM* we proposed to apply the existing FSS rules to the Ka-band, including this strict financial standard. Several of the experienced and well financed satellite service providers such as Hughes Communications, GE Americom and Loral supported this proposal as a way to get service to the public in an efficient manner.

51. In order to minimize any barriers for entry into this new satellite market for small entities, Commission staff spent months encouraging and working with all of the commercial GSO FSS applicants to reach agreement on an orbital assignment plan to accommodate all first-round applicants. As discussed in the *Third Report and Order*, the applicants did reach agreement regarding orbit locations. Therefore we are able to waive our financial qualification requirement and not look to current financial ability as a prerequisite to a license grant. By licensing all current commercial system applicants, we enable small entities and start-up companies the opportunity to

compete in the capital intensive satellite industry.

#### VI. Report to Congress

52. The Commission shall send a copy of this Final Regulatory Flexibility Analysis, along with this *Third Report and Order*, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this FRFA will also be published in the **Federal Register**.

#### Ordering Clauses

53. Accordingly, *It is ordered* that part 25 of the Commission's rules are amended as set forth below and will become effective January 20, 1998, with the exception of § 25.145(g), which will become effective upon OMB approval. This action is taken pursuant to Sections 4 and 303 (r) of the Communications Act of 1934, as amended 47 U.S.C. §§ 154, 303(r), and Section 201(c) of the Communications Satellite Act of 1962, 47 U.S.C. § 721(c).

#### List of Subjects in 47 CFR 25

Satellites.

Federal Communications Commission.

**William F. Caton,**

*Acting Secretary.*

#### Rule Changes

#### PART—25 SATELLITE COMMUNICATIONS

1. The authority citation for part 25 continues to read as follows:

**Authority:** Secs. 25.101 to 25.601 issued under Sec. 4, 48 Stat. 1066, as amended; 47 U.S.C. 154. Interpret or apply secs. 101-104, 76 Stat. 419-427; 47 U.S.C. 701-744; 47 U.S.C. 554.

2. Section 25.145 is added to read as follows:

#### § 25.145 Licensing conditions for the Fixed-Satellite Service in the 20/30 GHz bands.

(a) Except as provided in § 25.210(b), in general all rules contained in this part apply to Fixed-Satellite Service in the 20/30 GHz bands.

(b) *System License.* Applicants authorized to construct and launch a system of technically identical non-geostationary satellite orbit satellites will be awarded a single "blanket" license covering a specified number of space stations to operate in a specified number of orbital planes.

(c) In addition to providing the information specified in § 25.114, each non-geostationary satellite orbit applicant shall demonstrate the following:

(1) That the proposed system be capable of providing fixed-satellite services to all locations as far north as 70 deg. latitude and as far south as 55 deg. latitude for at least 75% of every 24-hour period; and

(2) That the proposed system is capable of providing fixed-satellite services on a continuous basis throughout the fifty states, Puerto Rico and the U.S. Virgin Islands, U.S.

(d) *Considerations involving transfer or assignment applications.* (1) "Trafficking" in bare licenses issued pursuant to paragraph (b) of this section is prohibited, except with respect to licenses obtained through a competitive bidding procedure.

(2) The Commission will review a proposed transaction to determine if the circumstances indicate trafficking in licenses whenever applications (except those involving *pro forma* assignment or transfer of control) for consent to assignment of a license, or for transfer of control of a licensee, involve facilities licensed pursuant to paragraph (b) of this section. At its discretion, the Commission may require the submission of an affirmative, factual showing (supported by affidavits of a person or persons with personal knowledge thereof) to demonstrate that no trafficking has occurred.

(3) If a proposed transfer of radio facilities is incidental to a sale of other facilities or merger of interests, any showing requested under paragraph (d)(2) of this section shall include an additional exhibit which:

(i) Discloses complete details as to the sale of facilities or merger of interests;

(ii) Segregates clearly by an itemized accounting, the amount of consideration involved in the sale of facilities or merger of interest; and

(iii) Demonstrates that the amount of consideration assignable to the facilities or business interests involved represents their fair market value at the time of the transaction.

(e) *Prohibition of certain agreements.* No license shall be granted to any applicant for a space station in the fixed-satellite service operating in the 20/30 GHz band if that applicant, or any persons or companies controlling or controlled by the applicant, shall acquire or enjoy any right, for the purpose of handling traffic to or from the United States, its territories or possession, to construct or operate space segment or earth stations, or to interchange traffic, which is denied to any other United States company by reason of any concession, contract, understanding, or working arrangement to which the Licensee or any persons or

<sup>52</sup> See Part 25 Streamlining, n. 29, *supra*.

companies controlling or controlled by the Licensee are parties.

(f) *Implementation milestone schedule.* Each GSO FSS licensee in the 20/30 GHz band will be required to begin construction of its first satellite within one year of grant, to begin construction of the remainder within two years of grant, to launch at least one satellite into each of its assigned orbit locations within five years of grant, and to launch the remainder of its satellites by the date required by the International Telecommunications Union to assure international recognition and protection of those satellites. Each NGSO FSS licensee in the 20/30 GHz band will be required to begin construction of its first two satellites within one year of the unconditional grant of its authorization, and complete construction of those first two satellites within four years of that grant. Construction of the remaining authorized operating satellites in the constellation must begin within three years of the initial authorization, and the entire authorized system must be operational within six years.

(g) *Reporting Requirements.* All licensees in the 20/30 GHz band shall, on June 30 of each year, file a report with the International Bureau and the Commission's Columbia Operations Center, 9200 Farm House Lane, Columbia, MD 21046 containing the following information:

(1) Status of space station construction and anticipated launch date, including any major problems or delay encountered;

(2) A listing of any non-scheduled space station outages for more than thirty minutes and the cause(s) of such outages; and

(3) Identification of any space station(s) not available for service or otherwise not performing to specifications, the cause(s) of these difficulties, and the date any space station was taken out of service or the malfunction identified.

3. Section 25.210 is amended by redesignating paragraphs (c) through (j) as paragraphs (e) through (l); redesignating paragraph (b) as paragraph (c); and adding new paragraphs (b) and (d) to read as follows:

**§ 25.210 Technical requirements for space stations in the Fixed-Satellite Service.**

\* \* \* \* \*

(b) All space stations in the Fixed-Satellite Service in the 20/30 GHz band shall use either orthogonal linear or orthogonal circular polarization. Those space stations utilizing orthogonal linear polarization shall also comply with paragraph (a) of this section.

\* \* \* \* \*

(d) All space stations in the Fixed-Satellite Service in the 20/30 GHz band shall employ state-of-the-art full frequency reuse either through the use of orthogonal polarizations within the same beam and/or through the use of spatially independent beams.

\* \* \* \* \*

4. Section 25.204(g) is added to read as follows:

**§ 25.204 Power limits.**

\* \* \* \* \*

(g) All earth stations in the Fixed-Satellite Service in the 20/30 GHz band shall employ uplink adaptive power control or other methods of fade compensation such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between networks.

[FR Doc. 97-30205 Filed 11-17-97; 8:45 am]

BILLING CODE 6712-01-P

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 679**

[I.D. 092297C]

**Fisheries of the Exclusive Economic Zone Off Alaska; Pacific Cod in the Central Regulatory Area of the Gulf of Alaska Modification of a Closure; Correction**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Correction to a modification of a closure.

**SUMMARY:** This document contains a correction to a cross reference incorrectly stated in a closure notification (I.D. 092297C), which was published September 29, 1997.

**DATES:** Effective 1200 hrs, Alaska local time (A.l.t.), October 1, 1997, until 2400 hrs, A.l.t., December 31, 1997.

**FOR FURTHER INFORMATION CONTACT:** Thomas Pearson, 907-486-6919.

**SUPPLEMENTARY INFORMATION:**

**Background**

On September 29, 1997, NMFS published a notification in the **Federal Register** that opened directed fishing for Pacific cod, by vessels catching Pacific cod for processing by the offshore component, in the Central Regulatory Area of the Gulf of Alaska (GOA) effective on October 1, 1997, A.l.t. This action was necessary to fully utilize the total allowable catch (TAC) of Pacific cod in the GOA Central Regulatory Area.

**Need for Correction**

This action corrects an erroneous cross reference that gives the authority that establishes the inshore/offshore apportionments (applicable through December 31, 1998) of Pacific cod in all GOA regulatory areas.

**Correction of Publication**

Accordingly, the publication on September 29, 1997, of the modification of a closure (I.D. 092297C), which was the subject of FR Doc. 97-25777, is corrected as follows:

On page 50888, in the third column, the second paragraph, the first sentence, the cross reference "679.20(d)(1)(iii)(A)" is corrected to read "679.20(a)(6)(iii)."

**Authority:** 16 U.S.C. 1801 *et seq.*

Dated: November 12, 1997.

**Bruce C. Morehead,**

*Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.*

[FR Doc. 97-30256 Filed 11-17-97; 8:45 am]

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