band, we are not proposing to change any allocations for the band. We are proposing that the band may be used for all services permitted under the existing allocations, as reflected in the U.S. Table of Allocations. Consequently, we conclude that we need not make the findings required by Section 303(y) of the Act because Section 303(y) does not apply here.

B. Government Sharing

61. In the United States, the 47 GHz band is allocated to both Government and non-Government operations on a shared co-primary basis.[97] The Commission recognized in proposing bands for satellite or wireless use in the *V-Band Notice* that sharing with co-primary Government users might create uncertainty regarding the amount of spectrum within a licensed block that would be available for future commercial use.[98] The Commission noted technical differences between Government operations and commercial operations, in which the Commission affords operators maximum flexibility to provide a wide range of market-driven services. In this Notice, we propose a licensing framework for the 47 GHz band that would allow the types of services offered by licensees to vary from market to market. This variation in services could complicate the coordination of commercial spectrum use with co-primary Government spectrum use, and could limit the flexible use we seek to provide to commercial operators.

62. In the *V-Band Notice*, the Commission requested comment on the possibilities for sharing between Government and non-Government users in the bands proposed in that Notice primarily for satellite use. With regard to the 47 GHz band, the Commission specified that this sharing issue would be addressed in this proceeding.[99] As the Commission stated, the National Telecommunications and Information Administration (NTIA) will be the co-arbiter with the Commission with regard to deciding how shared spectrum will be used.

63. Commission and NTIA representatives currently are engaged in discussions to determine the best means to balance the needs of Government and commercial users in these and other millimeter wave bands. Those discussions have centered on three approaches.[100] One approach involves allocating parts of the spectrum for exclusive non-Government use and allocating other parts for exclusive Government use. Although the Commission has identified these bands for non-Government use under the Part 27 Rules, one option may be to designate

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technology development; and (3) such use would not result in harmful interference among users.

[97] Current and proposed Government operations in these frequencies include radio navigation, radio astronomy, and space research.

[98] *See V-Band Notice*, 12 FCC Rcd at 10139 (para. 18).

[99] *Id.* at 10140 (para. 20 n.24).

[100] *Id.* at 10140 (para. 19).

this, or other similar bands, for exclusive Government use. In exchange, other bands would be designated for exclusive commercial use.

64. A second approach the Commission is exploring with NTIA involves "partitioned geographic exclusivity." In some cases, Government use is confined to a definable geographic area.[101] In any wireless band where such operations exist, those areas could be identified and carved out of auctionable markets. In this case, after licensing spectrum in the 47 GHz band pursuant to the Part 27 Rules, future Government spectrum requirements would be met in other bands designated for Government use.

65. A third approach involves granting the non-Government licensee exclusive rights for non-Government use in a certain band and geographic area. However, current Government operations and requests by the Government for future frequency assignments would be handled as they are now. This approach, however, could reduce the amount of spectrum in a given area that will be available for future use in a block licensed to a non-Government entity and could cause problems with planning and financing of build-out, and with the auctioning of licenses.

66. We seek comment on the possibilities for sharing between Government and commercial wireless users on frequencies in the 47 GHz band. We seek comment on whether it is desirable — from public interest, technical, and administrative perspectives — to explore options that would permit exclusive non-Government use in portions of this spectrum and provide Government users geographic exclusivity in other spectrum. We also seek comment regarding the best means to balance Government and non-Government access to this spectrum. For example, we anticipate that agreements may be negotiated between commercial and Government users that could result in protected Government use of frequencies under a wireless operator's control, or in Government operational requirements being met through the commercial operator.[102] Finally, we seek comment regarding whether it is feasible or possible to establish technical sharing rules that would allow sharing between Government and commercial licensees without significantly reducing the amount of spectrum available for commercial use or limiting flexibility regarding the types of commercial services that may be provided.

[101] An example of such a case would be geographic areas in the vicinity of military installations.

[102] Regardless of how Government and commercial spectrum access is balanced, it is possible that some commercial operators may be required to share that spectrum with Government users.

C. Application, Licensing, and Processing Rules

1. Regulatory Status

67. In this Notice, we are proposing a broad licensing framework for implementing services in the 47 GHz spectrum band. Under our proposal, a licensee would be authorized to provide a variety or combination of fixed, fixed-satellite, mobile, common carrier, and commercial non-common carrier, services, as well as use its license for its own internal, private use. In order to fulfill its enforcement obligations and ensure compliance with the statutory requirements of Titles II and III of the Communications Act, the Commission has required applicants to identify whether they seek to provide common carrier services. The Commission's current mobile service license application, for example, requires an applicant for mobile services to indicate whether the service it intends to offer will be CMRS, Private Mobile Radio Services (PMRS), or both.

68. In the *LMDS Second Report and Order,* the Commission required applicants for fixed services to indicate if they planned to offer services as a common carrier, a non-common carrier, or both, and to notify the Commission of any changes in status without prior authorization.[103] In adopting a similar licensing framework for Part 27, the Commission has permitted applicants to request common carrier status as well as non-common carrier status for authorization in a single license, rather than require the applicant to choose between common carrier and non-common services.[104] We propose to adopt the same procedure for licensing services in the 47 GHz band and to codify this procedure for the 2.3 GHz band.[105] The licensee will be able to provide all allowable services anywhere within its licensed area at any time, consistent with its regulatory status. We tentatively conclude that, in the case of services offered in the 47 GHz band, this approach is likely to achieve efficiencies in the licensing and administrative process.

69. In adopting Part 27, the Commission stated that, apart from this designation of regulatory status, the Commission would not require applicants to describe the services they seek to provide. The Commission stated that it is sufficient that an applicant indicate its

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[103] *LMDS Rulemaking*, Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 12545, 12636-38, 12644-45, 12652-53 (paras. 205-208, 225-226, 245-251) (1997) (*Second Report and Order*) (*Fifth NPRM*); *aff'd*, Melcher v. FCC, Case Nos. 93-1110, *et al.* (D.C. Cir., Feb. 6, 1998); Erratum, released Apr. 7, 1997 (*First Erratum*); Erratum, released May 1, 1997 (*Second Erratum*); Order on Reconsideration, 12 FCC Rcd 6424 (1997) (*First Reconsideration*); Second Order on Reconsideration, FCC 97-323, released Sept. 12, 1997 (*Second Reconsideration*); Third Report and Order, FCC 97-378, released Oct. 15, 1997; Third Order on Reconsideration, FCC 98-15, 63 Fed. Reg. 9443, released Feb. 11, 1998 (*Third Reconsideration*); *see also* 47 C.F.R. § 101.1017.

[104] *Part 27 Report and Order*, 12 FCC Rcd at 10846, 10848 (paras. 119, 122).

[105] *See* Appendix B, Proposed Section 27.8 of the Commission's Rules, 47 C.F.R. § 27.8.

choice for regulatory status in a streamlined application process.[106] In providing guidance on this issue to applicants, the Commission pointed out that an election to provide service on a common carrier basis requires that the elements of common carriage be present;[107] otherwise, the applicant must choose non-common carrier status.[108] The Commission advised the applicant that, if it is unsure of the nature of its services and their classification as common carrier services, it may submit a petition with its application, or at any time, requesting clarification and including service descriptions for that purpose.[109]

70. We propose that applicants and licensees in the 47 GHz band also not be required to describe their proposed services, but to indicate a regulatory status based on any services they choose to provide. We also propose that if licensees change the service they offer such that it would change their regulatory status they must notify the Commission, although such change would not require prior Commission authorization.[110] We propose that licensees notify the Commission within 30 days of the change, unless the change results in the discontinuance, reduction, or impairment of the existing service in which case a different time period may apply.[111] In addition to making these procedures applicable to the 47 GHz band, we propose to codify these procedures for the 2.3 GHz band.[112]

2. Eligibility; Spectrum Aggregation

71. Sections 27.12 and 27.302 of the Commission's Rules impose no restrictions on eligibility, other than the foreign ownership restrictions set forth in Section 310 of the Communications Act and discussed below.[113] Consistent with these sections of the

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[106] *Part 27 Report and Order*, 12 FCC Rcd at 10848 (para. 121); *see also LMDS Second Report and Order*, 12 FCC Rcd at 12644 (para. 223); 47 C.F.R. § 101.1013.

[107] *See* 47 U.S.C. § 153(44) ("A telecommunications carrier shall be treated as a common carrier under this Act . . . "); *see also* 47 U.S.C. § 332(C)(1)(A) ("A person engaged in the provision of a service that is a commercial mobile service shall, insofar as such person is so engaged, be treated as a common carrier for purposes of this Act . . .").

[108] *Part 27 Report and Order*, 12 FCC Rcd at 10790-91 (para. 12). The Commission recently examined services in the *LMDS Second Report and Order* and explained that any video programming service would be treated as a non-common carrier service. *LMDS Second Report and Order*, 12 FCC Rcd at 12639-41 (paras. 213-215). Thus, any applicant intending to provide a video programming service would appropriately indicate a choice of non-common carrier regulatory status.

[109] *Part 27 Report and Order*, 12 FCC Rcd at 10848 (para. 121).

[110] *See* Sections 101.61(b)(3), 101.61(c)(9) of the Commission's Rules, 47 C.F.R. §§ 101.61(b)(3), 101.61(c)(9).

[111] *See* Appendix B, Proposed Section 27.71 of the Commission's Rules, 47 C.F.R. § 27.71.

[112] *See* Appendix B, Proposed Section 27.7 of the Commission's Rules, 47 C.F.R. § 27.7.

[113] 47 C.F.R. §§ 27.12, 27.302; *see also Part 27 Report and Order*, 12 FCC Rcd at 10828-29 (paras. 80-83).

Commission's Part 27 Rules, we propose that there be no restrictions on eligibility for a license in the 47 GHz band.[114]

72. We believe that opening the 47 GHz band to as wide a range of applicants as possible will permit and encourage entrepreneurial efforts to develop new technologies and services, while helping to ensure the most efficient use of this spectrum. We seek comment on this conclusion. If, however, we decide in favor of an eligibility restriction, we also seek comment regarding whether an existing service provider should be considered "in-region," if 10 percent or more of the population of the license area is within the existing service provider's service area. This is the standard that was adopted in the *LMDS Second Report and Order.*[115] In addition, we seek comment regarding what should constitute an attributable interest for an existing service provider, in the event we decide in favor of an existing service provider restriction.

73. The current spectrum cap applicable to CMRS licensees covers broadband Personal Communications Service (PCS), cellular, and Specialized Mobile Radio (SMR) services, and therefore does not apply to Part 27 licensees.[116] The spectrum cap currently provides that "[n]o licensee in the broadband PCS, cellular, or SMR services (including all parties under common control) regulated as CMRS shall have an attributable interest in a total of more than 45 megahertz of licensed broadband PCS, cellular and SMR spectrum regulated as CMRS with significant overlap in any geographic area."[117] We do not propose to modify Part 27 to apply a similar cap with respect to those millimeter wave licensees that are CMRS providers. Although we could modify the amount of spectrum applicable to such a cap, we note that the 47 GHz band is still in the early stages of development and that the particular uses of this spectrum are still being defined by the marketplace. Without this type of information before us, we tentatively conclude that it is not appropriate for us at this time to propose the imposition of such a cap.

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[114] For recent Commission decisions regarding relevant factors in deciding whether license eligibility restrictions are necessary or appropriate, *see* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, RM-8553, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz, PP Docket No. 93-253, Report and Order and Second Notice of Proposed Rulemaking, 12 FCC Rcd 18600, 18619-20 (paras. 32-35) (1997) (*39 GHz Report and Order*); *LMDS Second Report and Order*, 12 FCC Rcd at 12614-16 (paras. 157-161).

[115] *LMDS Second Report and Order,* 12 FCC Rcd at 12629 (para. 187).

[116] *Part 27 Report and Order*, 12 FCC Rcd at 10832-34 (paras. 87-91).

[117] *See* 47 C.F.R. § 20.6(a); *see also* Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824, 7869-76 (paras. 94-107) (1996) (maintaining the 45 megahertz CMRS spectrum cap and eliminating the 35 megahertz cellular and PCS spectrum cap, and the 40 megahertz PCS spectrum cap).

74. However, within the entire millimeter wave spectrum, we believe that some limit on spectrum aggregation may be useful to foster competition. These licenses may be used to enter and provide services in markets that are not currently adequately competitive, such as local telephony and multichannel video programming distribution. Thus, to foster competition in those markets, it may be appropriate to ensure that ownership of this spectrum is not overly concentrated. In addition, this would tend to foster a competitive market for spectrum licenses themselves, which could facilitate the development of new services and markets. We therefore seek comment on an appropriate limit.

75. We also seek comment on any alternative mechanisms that may be appropriate to protect against the concentration of control of licenses, in order to ensure vigorous competition in wireless services and to implement the Communications Act. In addition to seeking comment on whether there should be any limit on spectrum aggregation within the millimeter wave spectrum, we seek comment on whether there should be any restriction on the amount of spectrum that any one licensee may obtain in the same licensed service area at 47 GHz. When addressing this second aggregation issue, commenters should consider the varying bandwidth requirements of the different types of services that could use the 47 GHz band.

3. Foreign Ownership Restrictions

76. Certain foreign ownership and citizenship requirements are imposed in Sections 310(a) and 310(b) of the Communications Act,[118] as modified by the Telecommunications Act of 1996, that restrict the issuance of licenses to certain applicants. The statutory provisions are implemented in Section 27.12 of the Commission's Rules, which specifically reference the requirements of Section 310 of the Act.[119]

77. We note that the foreign ownership restrictions contained in Section 310 of the Act will, of course, still be applicable to the extent the restrictions apply to a particular service being offered in the 47 GHz band.[120] In response to the World Trade Organization (WTO) Basic Telecommunications Agreement, the Commission recently liberalized its policy for applying its discretion with respect to foreign ownership of common carrier radio licensees under Section 310(b)(4). In general, the Commission now presumes that ownership by entities from countries that are WTO members serves the public interest. Ownership by

[118] 47 U.S.C. §§ 310(a), 310(b), as amended by the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (1996 Act).

[119] 47 C.F.R. § 27.12; *see also* 47 C.F.R. § 27.302.

[120] *See* 47 U.S.C. §§ 310(a), 310(b).

entities from countries that are not WTO members continues to be subject to the "effective competitive opportunities" test.[121]

78. By its terms, Section 27.12 of the Commission's Rules[122] would apply to 47 GHz applicants. Thus, a 47 GHz applicant requesting authorization only for non-common carrier services would be subject to Section 310(a) but not to the additional prohibitions of Section 310(b). A 47 GHz applicant requesting authorization for common carrier services (or for both common carrier and non-common carrier services) would be subject to both Section 310(a) and Section 310(b).

79. In the filing of an application under the Multipoint Distribution Service (MDS), satellite, and LMDS rules, the Commission requires any applicant electing non-common carrier status to submit the same information that common carrier applicants submit to address the alien ownership restrictions under Section 310(b) of the Act.[123] We propose that the same approach be followed with respect to 47 GHz applicants. Under our proposal to permit licensees to change status with a minimum of regulatory oversight, updated information can be used whenever the licensee changes to common carrier status without imposing an additional filing requirement when the licensee makes the change.

80. Like common carriers, non-common carriers, under our proposal, would be required to file the information whenever there are changes to the foreign ownership information. We would not disqualify the applicant requesting authorization exclusively to provide non-common carrier services from a license if its citizenship information reflects that it would otherwise be disqualified from a common carrier license. As the Commission stated in the *Satellite Rules Report and Order* and in the *LMDS Second Report and Order*, the Commission is requiring non-common carriers to address all the alien ownership prohibitions to better enable the Commission to monitor all of the licensed providers in light of their ability to provide *both* common and non-common carrier services.[124] We request comment on this proposal.

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[121] *See* Rules and Policies on Foreign Participation in the U.S. Telecommunications Market and Market Entry and Regulation of Foreign-Affiliated Entities, IB Docket Nos. 97-142 and 95-22, Report and Order and Order on Reconsideration, 12 FCC Rcd 23891, 23935-47 (paras. 97-132) (1997).

[122] 47 C.F.R. § 27.12.

[123] 47 U.S.C. § 310(b). *See* Revisions to Part 21 of the Commission's Rules Regarding the Multipoint Distribution Service, 2 FCC Rcd 4251, 4253 (para. 16) (1987) (*MDS Report and Order*); Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures, IB Docket No. 95-117, Report and Order, 11 FCC Rcd 21581, 21599 (para. 43) (1996) (*Satellite Rules Report and Order*); *LMDS Second Report and Order,* 12 FCC Rcd at 12650-51 (para. 243).

[124] *Satellite Rules Report and Order,* 11 FCC Rcd at 21599 (para. 43); *LMDS Second Report and Order*, 12 FCC Rcd at 12651 (para. 243).

4. Size of Service Areas for Geographic-Area Licensing

81. The Commission has found that the likely predominant use of the 47 GHz band will be for fixed point-to-multipoint service, which is a service provided on a point-radius basis within a given geographic area. An example of this type of service is the stratospheric-based platform service being proposed by Sky Station. However, fixed point-to-point service is not precluded and, in fact, the 47 GHz band is allocated domestically for Government and non-Government Fixed, Fixed-Satellite, and Mobile uses. It could well be the case that the 47 GHz spectrum will be used for short range, broad bandwidth, point-to-point communications links that are traditional applications for millimeter wave spectrum. The Commission has previously expressed the view that there is not sufficient information in the record in this proceeding to determine the exact services 47 GHz licensees might provide.[125]

82. In the *Second Report and Order*, the Commission specifically declined to decide the size of the geographic area to be used for licensing purposes, stating that this determination should be made at the time the Commission adopts service rules for the 47 GHz band.[126] In the *Millimeter Wave Notice*, however, the Commission proposed to license the 47 GHz band using MTAs.[127] The Commission stated that in the millimeter wave bands it was proposing to allow a broad range of uses and technologies, some of which might require large service areas.[128] The Commission indicated that large service areas would facilitate the setting of technical standards, reduce coordination requirements between adjoining licensees, and produce larger economies of scale, which could be especially important during the initiation of new services.[129]

83. Since the *Millimeter Wave Notice* was issued, the Commission has licensed the C and D frequency blocks of the 2.3 GHz band on the basis of the 12 Regional Economic Area Groupings (REAGs) and the A and B frequency blocks using the 52 Major Economic Areas (MEAs).[130] REAGs and MEAs are based on the U.S. Department of Commerce's 172

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[125] *Second Report and Order*, 12 FCC Rcd at 10594 (para. 62).

[126] *Id.* at 10599 (para. 79).

[127] *Millimeter Wave Notice*, 9 FCC Rcd at 7088-89 (para. 24). MTAs are defined in the Rand McNally *1992 Commercial Atlas & Marketing Guide*, 123rd Edition, pages 36-39. As defined by Rand McNally, there are 47 MTAs. In addition, for licensing purposes, the Commission has separated Alaska from the Seattle MTA and licensed it as a separate MTA-like area. The Commission has also separately licensed the following three MTA-like regions: (1) Guam and the Northern Mariana Islands; (2) Puerto Rico and the United States Virgin Islands; and (3) American Samoa. In total, therefore, the Commission has recognized 51 MTAs and MTA-like areas.

[128] *Id.* at 7088 (para. 24).

[129] *Id.*

[130] Sections 27.5, 27.6 of the Commission's Rules, 47 C.F.R. §§ 27.5, 27.6.

Economic Areas (EAs), as modified by the Commission.[131] EAs are defined by the Department of Commerce and do not raise copyright issues associated with commercially defined geographic areas.[132] The Commission created REAGs by aggregating EAs in the continental United States into six "super-regional" licenses and by creating six additional regions to cover Alaska, Hawaii, three U.S. possessions, and the Gulf of Mexico.

84. In choosing to license part of the 2.3 GHz band using REAGs, the Commission noted that the use of larger service areas would: (1) encourage the rapid development and deployment of innovative service; (2) facilitate interoperability and the setting of standards; and (3) allow for economies of scale that will encourage the development of low cost equipment.[133] The Commission also stated that the use of REAGs would facilitate the aggregation of service areas and speed implementation of new services.[134] Furthermore, the Commission stated that the use of larger service areas would speed and simplify the process of interference coordination along geographic boundaries, as well as minimize transaction costs and disputes arising from interference, and facilitate implementation of services that would require easy interoperability. [135]

85. We propose to license the 47 GHz band using the 12 REAG service areas adopted for the C and D frequency blocks for the 2.3 GHz band, and not the MTAs proposed in the *Millimeter Wave Notice*.[136] We tentatively conclude that the same reasoning used to adopt the REAG approach for the C and D frequency blocks for the 2.3 GHz band supports the use of REAGs as the geographic basis for licensing the 47 GHz band. By being larger than MTAs, REAGs permit more flexibility, allow for greater economies of scale, and permit more rapid introduction of new and innovative services. In addition, regional licenses should accommodate the stratospheric uses of the band for placement of platforms to provide the point-to-multipoint service proposed by Sky Station.[137] We also note that the use of REAGs is not inconsistent with the reasoning advanced by the Commission in the *Millimeter Wave*

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[131] *Part 27 Report and Order*, 12 FCC Rcd at 10814 (para. 54).

[132] In its comments, Rand McNally, the copyright owner to MTA and BTA listings, states that the Commission may not make MTAs or BTAs the geographic boundaries for 47 GHz services without its consent, and until an applicable license from Rand McNally has been obtained. Rand McNally Comments (Jan. 30, 1995) at 5-6.

[133] *Part 27 Report and Order*, 12 FCC Rcd at 10814 (para. 55).

[134] *Id.* at 10815 (para. 55).

[135] *Id.* at 10815 (para. 56).

[136] *See* Appendix B, Proposed Section 27.11(b)(2) of the Commission's Rules, 47 C.F.R. § 27.11(b)(2).

[137] For its stratospheric service, Sky Station supports licensing at least some of the 47 GHz spectrum on a national basis or, alternatively, "super-regional" licenses consisting of clusters of MTAs, as the Commission did for narrowband PCS. Sky Station Further Comments to Petition for Rulemaking (Dec. 24, 1996) at 6.

Notice for the use of MTAs. We seek comment on our proposal to use REAGs rather than MTAs as the basis for licensing the 47 GHz band.

86. We recognize that the Commission has licensed other wireless services using other types of service areas. For instance, broadband PCS is licensed using MTAs and Basic Trading Areas (BTAs).[138] Specialized Mobile Radio (SMR) service in the 800 MHz band is licensed based on EAs and 900 SMR service is licensed based on MTAs.[139] Cellular service was initially licensed using Metropolitan Statistical Areas (MSAs) and Rural Service Areas. Potential 47 GHz licensees may feel that REAGs are too large. Various commenters responding to the *Millimeter Wave Notice* propose smaller license areas, such as BTAs or MSAs because the large size of MTAs would, in their view, place unduly burdensome facility build-out requirements on licensees.[140] Other commenters state that, for narrowband applications, smaller areas such as BTAs would be appropriate, while MTAs are adequate for broadband.[141] We seek comment on whether one or more of these smaller service areas should be used for licensing all or part of the 47 GHz band and whether the use of multiple licensing areas might affect service flexibility.

87. Under our proposed approach, REAGs could be aggregated into national licenses, and they could also be partitioned.[142] The aggregation and partitioning rules we propose in this Notice will allow licensees the flexibility to tailor operational areas to the needs of users. In addition, permitting licenses to be aggregated should enhance the feasibility of utilizing the 47 GHz spectrum for satellite services.[143] Along these same lines, we seek comment on whether one or more of the 100 megahertz channel blocks should be licensed on a national basis. In this manner, licensees wishing to offer a nationwide service would not have to aggregate individual licenses. This approach should save time, money, and other resources, and also expedite the development and offering of services.

5. Performance Requirements

88. In the *Millimeter Wave Notice*, the Commission proposed to use auctions to award licenses among mutually exclusive applications in the 47 GHz band and stated that licensees would have much less incentive to engage in uneconomic warehousing or other forms of

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[138] Section 24.202 of the Commission's Rules, 47 C.F.R. § 24.202.

[139] Sections 90.661 and 90.681 of the Commission's Rules, 47 C.F.R. §§ 90.661, 90.681.

[140] *See* Clarendon Foundation Comments (Jan. 30, 1995) at 5; GHz Equipment Co., Inc., Comments (Jan. 30, 1995) at 9; Troy State University Montgomery Comments (Jan. 31, 1995) at 2.

[141] Pacific Bell Mobile Services and Telesis Technologies Laboratory Comments (Jan. 30, 1995) at 3.

[142] *See* para. 95, *infra*.

[143] In its comments, Motorola states that an MTA-by-MTA licensing scheme makes no sense for satellite services. Motorola Reply Comments (Mar. 1, 1995) at 5.

speculation.[144] Accordingly, the Commission tentatively concluded that mandatory build-out requirements and transfer restrictions would reduce licensee flexibility and reduce the ability of licensees to put this spectrum to its highest valued use.[145]

89. Section 27.14(a) of the Commission's Rules requires Wireless Communications Service (WCS) licensees to provide "substantial service" to their service area within 10 years of being licensed and states that a failure to meet this requirement will result in forfeiture of the license and the licensee's ineligibility to regain it.[146] This section defines substantial service as "service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal."[147] The *Part 27 Report and Order* provided several examples of "safe harbors" that would demonstrate substantial service.[148] Later, for LMDS, we adopted the same build-out requirement and safe harbors.[149] Given the similarities between the WCS, LMDS, and 47 GHz services in their states of service and technology development and flexibility, we propose that licensees in the 47 GHz band be governed by the same construction standards, including the same ``safe harbors."

90. Our construction proposal includes the requirement that licensees submit an acceptable showing to us at the end of the 10-year period demonstrating that they are providing substantial service.[150] We propose to amend our Part 27 Rules to adopt the following "safe harbors" that would be applicable to 2.3 GHz licensees, as well as licensees in the 47 GHz band:[151]

- For a licensee that chooses to offer fixed services or point-to-point services, the construction of four permanent links per one million people in its licensed service area at the 10-year renewal mark would constitute substantial service.

- For a licensee that chooses to offer mobile services or point-to-multipoint services, a demonstration of coverage to 20 percent of the population of its licensed service area at the 10-year renewal mark would constitute substantial service.

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[144] *Millimeter Wave Notice*, 9 FCC Rcd at 7089 (paras. 25, 26).

[145] *Id.* at 7089 (para. 25).

[146] 47 C.F.R. § 27.14(a).

[147] *Part 27 Report and Order*, 12 FCC Rcd at 10843-45 (paras. 111-115), adopting 47 C.F.R. § 27.14(a).

[148] *Id.* at 10844 (para. 113).

[149] *LMDS Second Report and Order*, 12 FCC Rcd at 12659 (para. 267).

[150] *Part 27 Report and Order*, 12 FCC Rcd at 10843-44 (para. 113); *see also* 47 C.F.R. § 27.14(c).

[151] *See* Appendix B, Proposed Section 27.14(a)(1) of the Commission's Rules, 47 C.F.R. § 27.14(a)(1).

- For a licensee that chooses to offer a fixed-satellite service, one launched satellite in conjunction with construction of one earth station per licensed service area at the 10-year renewal mark would constitute substantial service.

91. Historically the Commission has required satellite systems licensed under Part 25 of the Commission's Rules to comply with construction milestones that ensure that the licensee is working toward implementing service. This differs from the 10-year substantial service requirement proposed in the Notice. However, systems licensed under Part 27 are afforded considerable flexibility in determining the type of service to be provided, and have no requirement to disclose the type of service prior to the end of the 10-year renewal period. In the absence of a definitive service determination, it is not practical to hold such licensees to a strict construction schedule. We note, however, that satellite systems must meet additional requirements (*i.e.*, launch, operation and international coordination) which are not covered under Part 27. Fulfillment of these requirements, in particular international coordination, can take up to several years to complete. Accordingly, licensees intending to operate a satellite service should allow sufficient time to accomplish all steps necessary to meet the proposed substantial service requirement (one launched satellite in conjunction with one constructed earth station per licensed area) within the 10-year renewal period.

92. These safe harbors are intended to provide licensees certainty as to compliance with the substantial service requirement by the end of the initial license term. If they comply with the safe harbors, they will have met the substantial service requirement. In addition, the substantial service requirement could be met in other ways, and we propose to review licensees' showings on a case-by-case basis.[152] In reviewing licensees' showings, the Commission may consider such factors as whether the licensee is offering a specialized or technologically sophisticated service that does not require wide coverage to be of benefit to customers,[153] and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees.[154] Although licensees will have incentives to construct facilities to meet the service demands in their licensed service area, we tentatively conclude that the minimum requirements we propose for these bands will promote

[152] *See* Appendix B, Proposed Section 27.14(a)(2) of the Commission's Rules, 47 C.F.R. § 27.14(a)(2).

[153] *Part 27 Report and Order*, 12 FCC Rcd at 10844 (para. 113), citing Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, and Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, Second Report and Order and Second Further Notice of Proposed Rulemaking, 10 FCC Rcd 6884, 6887 (para. 4) (1995).

[154] *Id.*, citing Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool – Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, Third Order on Reconsideration, 11 FCC Rcd 1170 (para. 2) (1995).

efficient use of the spectrum, encourage the provision of service to rural, remote, and insular areas, and prevent the warehousing of spectrum.

93. We believe that these build-out provisions fulfill our obligations under Section 309(j)(4)(B).[155] We also believe that the auction rules that we propose to apply to these services, together with the service rules that we are proposing and our overall competition and universal service policies, constitute effective safeguards and performance requirements for licensing this spectrum. Because a license would be assigned in the first instance through competitive bidding, it will be assigned efficiently to a firm that has shown by its willingness to pay market value its intention to put the license to use. We also believe that, combined with the universal service policies of the 1996 Act, service to rural areas will be promoted by our proposal to allow partitioning and disaggregation of spectrum and by our proposal, as outlined below, to permit parties to disaggregation and partitioning agreements to negotiate between themselves the responsibility for meeting the applicable construction requirements.[156]

94. Finally, we intend to reserve the right to review our construction requirements in the future if we receive complaints related to Section 309(j)(4)(B), or if our own monitoring initiatives or investigations indicate that a reassessment is warranted because spectrum is being warehoused or otherwise is not being used despite demand. We also will reserve the right to impose additional, more stringent construction requirements on Part 27 licenses in the future in the event of actual anticompetitive or rural service problems and if more stringent construction requirements can effectively ameliorate those problems. We solicit comment on these proposals and views regarding performance requirements.

6. Disaggregation and Partitioning of Licenses

95. We propose to permit licensees in the 47 GHz band to partition their service areas and to disaggregate their spectrum. We believe that such an approach will serve to promote the efficient use of the spectrum. We thus tentatively conclude that geographic partitioning and spectrum disaggregation can result in economic opportunity for a wide variety of applicants, including small business, rural telephone, minority-owned, and women-owned applicants, as required by Section 309(j)(4)(C) of the Communications Act.[157] We also tentatively conclude that it will provide a means to overcome entry barriers through the creation of smaller licenses that require less capital, thereby facilitating greater participation

[155] *Id.* at 10844-45 (paras. 114-115), citing 47 U.S.C. § 309(j)(4)(B); *see also* Melcher v. FCC, Case Nos. 93-1110, *et al.* (D.C.Cir., Feb. 6, 1998).

[156] *See* paras. 98-100, *infra*.

[157] 47 U.S.C. § 309(j)(4)(C).

by smaller entities such as small businesses, rural telephone companies, and businesses owned by minorities and women.[158]

96. Section 27.15 of the Commission's Rules[159] permits licensees seeking approval for partitioning and disaggregation arrangements to request from the Commission authorization for partial assignment of a license, and provides that licensees may apply to partition their licensed geographic service area or disaggregate their licensed spectrum at any time following the grant of their licenses.[160] In adopting the rule, the Commission decided to permit geographic partitioning of any service area defined by the partitioner and partitionee, to permit spectrum disaggregation without restriction on the amount of spectrum to be disaggregated, and to permit combined partitioning and disaggregation.[161] The Commission concluded that allowing parties to decide without restriction the exact amount of spectrum to be disaggregated will encourage more efficient use of the spectrum and permit the deployment of a broader mix of service offerings, both of which will lead to a more competitive wireless marketplace.[162] We propose that licensees in the 47 GHz band be eligible to the same extent to partition service areas and disaggregate spectrum. We request comment on this proposal, and specifically what limits, if any, should be placed on the ability of licensees to partition and disaggregate.

97. In adopting Section 27.15, the Commission established the requirement that, to partition, the licensee must include with its request a description of the partitioned service area and a calculation of the population of the partitioned service area and the licensed geographic service area.[163] The Commission also adopted provisions against unjust enrichment to address situations where a Part 27 licensee who received a bidding credit partitions a section of its service area or disaggregates a portion of its spectrum to an entity that would not qualify for a similar bidding credit.[164] We propose to adopt these provisions, as well as the remaining provisions governing partitioning and disaggregation in Section 27.15, for licensees in the 47 GHz band.

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[158] *See* Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees; Implementation of Section 257 of the Communications Act – Elimination of Market Entry Barriers, WT Docket No. 96-148, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21831, 21843-44 (paras. 13-17) (1996) (*Partitioning and Disaggregation Report and Order*).

[159] 47 C.F.R. § 27.15.

[160] *See Part 27 Report and Order*, 12 FCC Rcd at 10836-39 (paras. 96-103), adopting 47 C.F.R. § 27.15.

[161] *Id.* at 10836-37, 10839 (paras. 97-99, 102), citing *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21847-48 (paras. 23-24).

[162] *Id.* at 10836 (para. 97).

[163] *Id.* at 10837 (para. 98), adopting 47 C.F.R. § 27.15(b)(1).

[164] *Id.* at 10838-39 (para. 101), adopting 47 C.F.R. § 27.15(c)(1)(2); *see also* 47 C.F.R. § 1.2111.

98. We also propose to adopt for 47 GHz licensees the methods that the Commission adopted in the *Part 27 Report and Order* for parties to partitioning, disaggregation, or combined partitioning and disaggregation agreements to meet construction build-out requirements, and to codify these methods for 2.3 GHz licensees.[165] Specifically, we propose to allow parties to partitioning agreements to choose between two options for satisfying the construction requirements.[166] Under the first option, the partitioner and partitionee would each certify that it will independently satisfy the substantial service requirement for its respective partitioned area. If a licensee fails to meet its substantial service requirement during the relevant license term, the non-performing licensee's authorization would be subject to cancellation at the end of the license term. Under the second option, the partitioner certifies that it has met or will meet the substantial service requirement for the entire market. If the partitioner fails to meet the substantial service standard during the relevant license term, however, only its license would be subject to cancellation at the end of the license term. The partitionee's license would not be affected by that failure.

99. Our proposal to offer two options to partitioning parties is based on our belief that Part 27 licensees may be motivated to enter into partitioning arrangements for different reasons and under various circumstances. For example, a Part 27 licensee might be motivated to partition its license in order to reduce its construction costs. In that case, the original licensee would have less population to cover in order to meet its substantial service requirement. Thus, it may find the first option most attractive for its purposes. Under another scenario, a Part 27 licensee that has met or is close to meeting its substantial service requirement may be approached by another entity interested in serving a niche market in a portion of the service area. Under these circumstances, the second option may seem most attractive to the parties.

100. Similarly, we propose to allow parties to disaggregation agreements to choose between two options for satisfying the construction requirements.[167] Under the first option, the disaggregator and disaggregatee would certify that they each will share responsibility for meeting the substantial service requirement for the geographic service area. If parties choose this option, both parties' performance will be evaluated at the end of the relevant license term and both licenses could be subject to cancellation. The second option would allow the parties to agree that either the disaggregator or the disaggregatee would be responsible for meeting the substantial service requirement for the geographic service area. If parties choose this

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[165] *Id.* at 10836 (para. 96) ("We also conclude that the specific rules pertaining to partitioning and disaggregation in WT Docket No. 96-148 shall apply to WCS licensees."); *see also Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, 21865 (paras. 42, 62-63); *LMDS Rulemaking*, Fourth Report and Order, FCC 98-77, paras. 16-19 (released May 6, 1998).

[166] *See* Appendix B, Proposed Section 27.15(e)(1) of the Commission's Rules, 47 C.F.R. § 27.15(e)(1).

[167] *See* Appendix B, Proposed Section 27.15(e)(2) of the Commission's Rules, 47 C.F.R. § 27.15(e)(2).

option, and the party responsible for meeting the construction requirement fails to do so, only the license of the non-performing party would be subject to cancellation.

7. License Term; Renewal Expectancy

101. Section 27.13 of the Commission's Rules provides for authorizations for license terms not to exceed ten years from the date of original issuance or renewal.[168] Section 27.14(c) establishes a right to a renewal expectancy.[169] We propose to adopt these license term and renewal expectancy provisions for use in connection with the licensing of spectrum in the 47 GHz band. We believe that a 10-year license term, combined with a renewal expectancy, will help to provide a stable regulatory environment that will be attractive to investors and thereby encourage development of this spectrum. We seek comment on whether it would be appropriate to have different license terms depending on the type of service offered by the licensee. We also seek comment on how we would administer such an approach, particularly if licensees provide more than one service in their service area or decide to change the type of service they plan to offer.

102. We propose, in the event that a license is partitioned or disaggregated, that any partitionee or disaggregatee be authorized to hold its license for the remainder of the original licensee's 10-year term, and that the partitionee or disaggregatee may obtain a renewal expectancy on the same basis as other Part 27 licensees. We further propose that all licensees meeting the substantial service requirement will be deemed to have met this facet of the renewal expectancy requirement regardless of which of the construction options the licensees chose. We believe that this approach is appropriate because a licensee, through partitioning, should not be able to confer greater rights than it was awarded under the terms of its license grant.[170]

103. We also seek comment on whether a renewal applicant involved in a comparative renewal proceeding[171] should include at a minimum the following showing, which the Commission adopted in Section 27.14(c) of the Commission's Rules, to claim a renewal expectancy:[172]

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[168] 47 C.F.R. § 27.13; *see also Part 27 Report and Order*, 12 FCC Rcd at 10840 (para. 106).

[169] 47 C.F.R. § 27.14(c); *see also Part 27 Report and Order*, 12 FCC Rcd at 10840-41 (para. 107).

[170] *See* Sections 27.15(a), 27.15(d), 27.324(ba)(4) of the Commission's Rules, 47 C.F.R. §§ 27.15(a), 27.15(d), 27.324(b)(4); *see also Part 27 Report and Order*, 12 FCC Rcd at 10840 (para. 106).

[171] A comparative renewal proceeding is a proceeding in which an existing licensee is challenged by another applicant. The existing licensee must demonstrate that the Commission should renew its license for another license term rather than issue the license to another applicant. Section 27.14(b) of the Commission's Rules, 47 C.F.R. § 27.14(b); *see also Part 27 Report and Order*, 12 FCC Rcd at 10840, 10843-44 (paras. 106, 113).

[172] 47 C.F.R. § 27.14(c); *see also Part 27 Report and Order*, 12 FCC Rcd at 10840-41 (para. 107).

- A description of current service in terms of geographic coverage and population served or links installed.
- An explanation of the licensee's record of expansion, including a timetable for the construction of new base sites or links to meet changes in demand for service.
- A description of the licensee's investments in its system.
- Copies of any Commission Orders finding the licensee to have violated the Communications Act or any Commission rule or policy, and a list of any pending proceedings that relate to any matter described by the requirements for the renewal expectancy.[173]

8. Public Notice

104. Certain public notice provisions are required by Section 309(b) and Section 309(d) of the Communications Act for initial applications and substantial amendments thereof filed by radio common carriers.[174] These requirements state that no such application shall be granted earlier than 30 days following the issuance of public notice by the Commission, and that the Commission may not require petitions to deny such applications to be filed earlier than 30 days following the public notice. The same provision also grants the Commission the authority to impose public notice requirements for other licenses, even though public notice is not required by the statute. However, the administrative procedures for spectrum auctions adopted by Section 3008 of the Balanced Budget Act of 1997[175] permit a five-day petition to deny period and a seven-day public notice period, notwithstanding the provisions of Section 309(b) of the Communications Act.

105. In the *Part 1 Third Report and Order*[176] the Commission amended Section 1.2108(b) and Section 1.2108(c) of the Commission's Rules[177] to provide for a five-day period

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[173] *Cf.* Sections 22.940(a)(2)(i)-(iv) of the Commission's Rules, 47 C.F.R. §§ 22.940(a)(2)(i)-(iv). We note that, because of the anticipated difference in the nature of the respective services, we are not proposing that licensees in the 47 GHz band be required to demonstrate an ability to serve roamers, as cellular licensees are required to do.

[174] 47 U.S.C. §§ 309(b), 309(d).

[175] Pub. L. No. 105-33, 111 Stat. 251 (1997), § 3008 (Balanced Budget Act of 1997).

[176] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Proceeding, WT Docket No. 97-82, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, Third Report and Order and Second Further Notice of Proposed Rulemaking, 13 FCC Rcd 374, 431 (para. 98) (1997) (*Part 1 Third Report and Order*) (*Part 1 Second Further NPRM*).

[177] 47 C.F.R. §§ 1.2108(b), 1.2108(c).

for filing petitions to deny and a seven-day public notice period for all auctionable services. We tentatively conclude below that services in the 47 GHz band will be auctionable services. We therefore tentatively conclude that the seven-day public notice period is applicable. We note, however, that in the *Part 1 Second Further NPRM* the Commission has sought comment on whether longer periods should be applicable for some services.[178]

D. Operating Rules

1. General Common Carrier Obligations; Forbearance

106. Title II of the Communications Act imposes a variety of obligations on the operations of common carriers that are not otherwise imposed on wireless communications services. In addition to the alien ownership restrictions and the licensing requirements for public notice in Title III of the Communications Act, discussed above,[179] there are a number of operational requirements that apply to common carriers concerning the filing of tariffs, maintaining of records, liabilities, and discontinuance of service, among others. Under Section 332(c)(1)(A) of the Communications Act, the Commission exercised its authority to forbear from certain of the obligations in implementing the provisions establishing CMRS and PMRS.[180] Thus, common carriers that are providing mobile services under Part 27 and would be classified as CMRS must adhere to the Title II requirements set out in Section 20.15 of the Commission's Rules.[181] CMRS providers are not required to file contracts of service, seek authority for interlocking directors, submit applications for new facilities or discontinuance of existing facilities, or file tariffs.[182]

107. However, common carriers that offer fixed services under Part 27 would not be exempt from those specific provisions. The 1996 Act provides the Commission with the

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[178] *Part 1 Second Further NPRM*, 13 FCC Rcd at 431 (para. 98).

[179] *See* paras. 76-80, 104-105, *supra*.

[180] Implementation of Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1463-90 (paras. 124-213) (*CMRS Second Report and Order*), *recon. pending*.

[181] 47 C.F.R. § 20.15.

[182] *CMRS Second Report and Order*, 9 FCC Rcd at 1475-93, 1510-11 (paras. 164-219, 272), authorizing forbearance from 47 U.S.C. §§ 203, 204, 205, 211, 212, 214; *see also* Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance For Broadband Personal Communications Services, Biennial Regulatory Review – Elimination or Streamlining of Unnecessary and Obsolete CMRS Regulations, Forbearance from Applying Provisions of the Communications Act to Wireless Telecommunications Carriers, WT Docket No. 98-100, Further Forbearance from Title II Regulation for Certain Types of Commercial Mobile Radio Service Providers, GN Docket No. 94-33, GTE Petition for Reconsideration or Waiver of a Declaratory Ruling, MSD-92-14, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 98-134, released July 2, 1998.

authority to forbear from these Title II requirements.[183] We seek comment on whether to exercise our authority to forbear from the same Title II requirements that the Commission has determined not to apply to CMRS licensees.[184] The statute requires that, before forbearing from applying any section of Title II, the Commission must find that each of the following conditions applies:

(1) Enforcement of such regulation or provision is not necessary in order to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;

(2) Enforcement of such regulation or provision is not necessary for the protection of consumers; and

(3) Forbearance from applying such provision or regulation is consistent with the public interest.

In applying the last condition, the Commission is directed to consider whether forbearance from enforcing the provision or regulation will promote competitive market conditions, including the extent to which such forbearance will enhance competition among providers of telecommunications services. If the Commission determines that such forbearance will promote competition among providers, that determination may be the basis for finding that forbearance is in the public interest.

108. We seek comment on application of each of these three conditions in the context of services that may be offered in the 47 GHz band and in the context of services in the 2.3 GHz band. Under the first two parts of the test, we request comment on the definition of consumer, what information we should consider when performing these evaluations, and examples of applying these tests in evaluating whether forbearance is appropriate. With respect to the third condition, we seek comment on the appropriate market that would apply to fixed, common carrier licensees in the 47 GHz band and in the 2.3 GHz band. Commenters should also address whether the level of competition in the marketplace for fixed common carrier services is sufficient to permit us to forbear from tariff regulation, service discontinuance, and the other two requirements.

109. We note that it may take longer for the Commission to conduct a forbearance analysis than to adopt service rules for the 47 GHz band. Therefore, we propose during the

[183] 47 U.S.C. § 160, as added by the 1996 Act.

[184] We note that Section 332(c)(3) of the Communications Act, 47 U.S.C. § 332(c)(3), preempts State regulation of rates and entry for CMRS providers, and that no equivalent statutory provision exists for fixed wireless providers.

interim period: (1) to adopt a discontinuance provision that is consistent with relevant common carrier operating obligations set forth in Part 1 and Parts 61 through 64 of the Commission's Rules;[185] and (2) to apply other parts of the Commission's Rules to ensure compliance of fixed common carriers with Title II of the Communications Act. We propose to take this same approach with the 2.3 GHz band.

110. Section 214(a) of the Communications Act[186] requires that no common carrier may discontinue, reduce, or impair service without Commission approval. Based on similar rules adopted in the *LMDS Second Report and Order*, we propose that if the service provided by a fixed common carrier Part 27 licensee is involuntarily discontinued, reduced, or impaired for a period exceeding 48 hours, the licensee must promptly notify the Commission, in writing, as to the reasons for the discontinuance, reduction, or impairment of service, including a statement indicating when normal service is to be resumed.[187] We propose that when normal service is resumed, the licensee must promptly notify the Commission.

111. Further, we propose that if a fixed, common carrier Part 27 licensee voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must obtain prior authorization as provided under Section 63.71 of the Commission's Rules,[188] but an application would be granted within 30 days after filing if no objections were received.[189] We propose that if a non-common carrier Part 27 licensee voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must give written notice to the Commission within seven days.[190] We also propose, however, that neither a fixed, common carrier, nor non-common carrier Part 27 licensee need surrender its license for cancellation if discontinuance is a result of a change in status from common carrier to non-common carrier or the reverse.[191]

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[185] 47 C.F.R. § 1.701, *et seq.*, Parts 61-64.

[186] 47 U.S.C. § 214(a).

[187] *LMDS Second Report and Order*, 12 FCC Rcd at 12654-55 (paras. 252-255), adopting amendments to 47 C.F.R. § 101.305.

[188] 47 C.F.R. § 63.71.

[189] *See* Appendix B, Proposed Section 27.71 of the Commission's Rules, 47 C.F.R. § 27.71.

[190] This is consistent with the modification of Section 101.305(c) of the Commission's Rules, 47 C.F.R. § 101.305(c), adopted for LMDS. *LMDS Second Report and Order*, 12 FCC Rcd at 12655 (para. 254).

[191] *LMDS Second Report and Order*, 12 FCC Rcd at 12655 (para. 255), adopting amendments to 47 C.F.R. § 101.305(b)(c).

2. Equal Employment Opportunity

112. Part 27 does not include an explicit Equal Employment Opportunity (EEO) provision. We note that there are specific EEO provisions for fixed service providers in Parts 21 and 101,[192] and for common carrier mobile service providers in Parts 22 and 90. In addition, Part 25 contains EEO rules for entities that use an owned or leased fixed satellite service facility to provide more than one channel of video programming directly to the public.[193] Conversely, there are no specific EEO provisions in Parts 24 (PCS) and 26 (General Wireless Communications Service).

113. We seek comment on whether to include an EEO provision in Part 27 and, if so, which of our EEO rules we should adopt. Commenters should address the advisability of having different EEO requirements depending on the service a licensee provides. If commenters support adopting EEO requirements, we request comment on what statutory authority should be invoked to support these requirements and how these rules should be tailored to withstand judicial review.[194] We also solicit comment on whether the Commission's EEO rules should apply both to licensees at 2.3 GHz, as well as licensees in the 47 GHz band.

E. Technical Rules

1. Introduction

114. In the *Millimeter Wave Notice*, the Commission proposed to allow licensees broad flexibility to choose the technologies and bandwidth of fixed applications, subject only to technical rules intended to minimize interference to other licensed users of these bands. Specifically, the Commission proposed to limit the power of transmitters in the millimeter wave bands to 16 dBW equivalent isotopically radiated power (EIRP). This was based on:

- An assumed limit of -20 dBW of transmitter power, which the Commission deemed likely to be typical of commercially-affordable microwave integrated circuits in the near future.

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[192] *Id.* at 12656 (para. 258), adopting amendments to 47 C.F.R. § 101.311.

[193] Section 25.601 of the Commission's Rules, 47 C.F.R. § 25.601.

[194] *See* Lutheran Church-Missouri Synod v. FCC, Case No. 97-1116 (D.C. Cir., Apr. 14, 1998) (striking down the Commission's EEO program requirements for radio broadcast stations as unconstitutional and remanding to the Commission the issue of whether the non-discrimination rule was within its statutory authority), *petition for rehearing pending*.

- Antenna gain of 36 dB, which the Commission believed would be typical of economical antennas and transmission systems in the near future.

The Commission proposed to permit either direct EIRP measurements or indirect calculations based on transmitter power and antenna gain measurements. Because of the broad flexibility involved, the Commission stated that it would consider higher power limits on a case-by-case basis subject to coordination with affected licensees. Comments were requested on the need for field strength limits at the boundaries of licensed service areas and on the need for rules requiring interference coordination between licensees in adjoining service areas.[195]

115. The Commission proposed spurious emissions and frequency stability requirements that would apply to emissions outside the assigned spectrum block in which the transmitter is operating. With regard to frequency stability, the Commission requested comment as to whether it is appropriate to establish temperature range requirements or susceptibility standards for equipment. The Commission proposed that transmitters be subject to type acceptance by the Commission prior to marketing. The Commission noted that it knew of no relevant guidance on type acceptance measurement procedures for the millimeter wave spectrum. The Commission therefore proposed that measurements for type acceptance purposes be in accordance with good engineering practice. The Commission sought comments on these proposals.[196]

116. The Commission also stated its intention to ultimately adopt millimeter wave band rules that will ensure that millimeter wave equipment meets relevant Radiofrequency (RF) exposure standards. The Commission tentatively concluded that, since this equipment would be limited to fixed services, it was appropriate to apply the RF exposure standards for controlled environments.[197]

117. Since adoption of the *Millimeter Wave Notice*, the Commission has continued to evaluate what technical rules are necessary and appropriate for millimeter wave spectrum. As discussed above,[198] our general proposal is to apply to the 47 GHz band the recently adopted Part 27 rules, except for modifications to these rules for this particular spectrum as a result of this proceeding. This would include rules related to equipment authorization, frequency stability, antenna structures and air navigation safety, international coordination, environmental requirements, quiet zones, and disturbance of AM broadcast station antenna patterns.[199]

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[195] *Millimeter Wave Notice*, 9 FCC Rcd at 7092 (para. 33).

[196] *Id.* at 7093 (para. 34).

[197] *Id.* at 7093-94 (para. 37).

[198] *See* paras. 55-56, *supra*.

[199] *Part 27 Report and Order*, 12 FCC Rcd at 10848-65 (paras. 123-161), adopting 47 C.F.R. §§ 27.51, 27.54, 27.56, 27.57, 27.59, 27.61, 27.63.

118. We seek comment on applying these rules to the 47 GHz band. We also seek comment on proposals below to adopt rules concerning in-band interference control, out-of-band and spurious emission limits, and RF exposure safety requirements. In addition, we seek comment on questions concerning the operation of stations located on stratospheric platforms that may require modification of any of the above technical rules. We propose that all of these technical rules would apply to all licenses in the 47 GHz band, regardless of the actual service provided or technology used, including those licensees who acquire licenses through partitioning of service areas or disaggregation of spectrum.

2. In-Band Interference Control

119. Because development of services and technologies that will use this band is just beginning, we do not have reliable information at this time on the technical parameters for services that will be offered. We recognize that licensees will be permitted to implement a broad range of services and technologies in this spectrum, and that the implementation of these services and technologies must take into account the potential for interference between licensees using the same spectrum in adjacent service areas.

120. We note that the Commission has permitted flexibility in services and technologies in other frequency bands. Examples include cellular service, PCS, GWCS, and the 2.3 GHz band. In these cases, the Commission generally has addressed the control of co-channel interference between licensees in adjacent geographic regions by establishing field strength limits at the edge of the service areas and encouraging the licensees to coordinate their operations.

121. We also note that the Commission has recently concluded two rulemaking proceedings concerning Fixed services at 28 GHz and 39 GHz.[200] In those two proceedings, the Commission relied principally upon the use of coordination procedures to avoid harmful interference between the operations of licensees in adjacent service areas. Specifically, licensees are required to follow the appropriate provisions of Section 101.103 of the Commission's Rules[201] when they construct new facilities or modify existing facilities within a certain distance of their licensed service areas. In the case of 28 GHz LMDS licensees, this distance is 20 kilometers; for 39 GHz licensees the distance is 16 kilometers. In deciding to use a coordination requirement instead of a field strength limit in the 39 GHz proceeding, the Commission noted a lack of consensus regarding the appropriate power flux density or field strength limit and expressed concern about adopting a limit without such information.[202]

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[200] *LMDS Rulemaking*, Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 12545 (1993); *39 GHz Report and Order*, 12 FCC Rcd 18600.

[201] 47 C.F.R. § 101.103.

[202] *39 GHz Report and Order*, 12 FCC Rcd at 18633 (para. 68).

122. The situation at 47 GHz differs somewhat from both of the situations described in the preceding paragraphs. Under our proposed rules, 47 GHz licensees will have the flexibility to provide Mobile, Fixed, or Fixed-Satellite services. In this respect they have flexibilities similar to those of the WCS (2.3 GHz) and GWCS (4.6 GHz) licensees, who are subject to a field strength limit at the service area boundary. On the other hand, in the 47 GHz band we anticipate the principal use will be for Fixed services, as in the 28 GHz and 39 GHz bands, which are subject to a general coordination procedure.

123. We believe that either method, when properly applied, can provide a satisfactory means of controlling harmful interference between systems, although, on balance, there may be reasons to prefer one over the other in the 47 GHz band. For example, a general coordination requirement may minimize the potential for interference to coordinated facilities but may also impose unnecessary coordination costs for facilities with a low potential for interference and increase the potential for undesirable strategic or anti-competitive behavior. A field strength limit, on the other hand, may reduce the need for coordination by giving licensees the ability unilaterally to deploy facilities in boundary areas as long as the limit is met, but by itself may provide insufficient assurance against interference to such facilities. Even with a boundary limit, some degree of coordination and joint planning between bordering licensees appears likely to be needed to ensure efficient use across the boundary.

124. Parties are therefore asked to provide their analysis of the advantages and disadvantages of both approaches or, possibly, other approaches that combine the elements of both a boundary limit and a coordination requirement. Comments should address the advantages of different approaches in controlling interference across geographic boundaries in the 47 GHz band, the kinds of incentives each may create for undesirable strategic or anti-competitive behavior, and the effect on licensee costs.

125. For purposes of our considering whether a general coordination approach should be used, comments are invited on which specific aspects of the procedures under Section 101.103 of the Commission's Rules should apply. The procedure is quite extensive and contains much information relevant only to specific services or frequency bands. While we believe that Section 101.103 can serve as a useful framework for coordination in the 47 GHz band, our objective is to ensure that licensees receive protection from harmful interference with the minimum regulation necessary.

126. If we adopt a general coordination approach, we tentatively conclude that the coordination procedures of Section 101.103 generally should be applied to 47 GHz licensees and should be incorporated into Part 27 of the Rules. We seek comment on the best way to effect this incorporation, including comment on which provisions of Section 101.103 may be appropriate for incorporation into Part 27. We also note that for 28 GHz LMDS and 39 GHz licensees, the need for coordination is triggered based on the distance that the station will be from the licensee's service area boundary. For purposes of our considering a coordination

approach for 47 GHz, we seek comment on what the appropriate distance should be to trigger this coordination, and whether there should be any other factors, in addition to distance to the service area boundary, that would trigger a need to coordinate.

127. We note that in the *Millimeter Wave Notice* the Commission proposed to limit the power of licensed stations in the proposed frequency bands to 16 dBW EIRP.[203] We seek comment on what, if any, limits for EIRP are necessary or appropriate under either a coordination or field strength limit approach. We observe that transmitters used in the private land mobile service, cellular radio service, and point-to-point microwave services typically employ substantially different output powers. Accordingly, if commenters believe that power limits are necessary, we invite comments as to what those limits should be and the basis for the suggested limits. We also solicit views as to whether we should establish limits on output power for all transmitters, or just mobile equipment. We note that it is often more difficult to control interference from mobile equipment, which can operate anywhere throughout an area.

128. If commenters believe that the Commission should apply a field strength limit at service area boundaries for the 47 GHz band as a means to control interference to neighboring systems, then an analysis should be presented to justify the use of any proposed value. Various maximum field strengths have been prescribed by the Commission for other services. These include 47 dBuV/m for PCS[204] and 55 dBuV/m for GWCS.[205] In Section 27.55 of the Commission's Rules, the Commission adopted a field strength limit of 47 dBuV/m for licensees in the 2.3 GHz band.[206] If we were to extrapolate from the maximum field strengths prescribed for PCS, GWCS, and the 2.3 GHz band to reflect the different frequency,[207] we would obtain a value of 75 dBuV/M for the 47 GHz band. As stated earlier, however, we are concerned that a limit calculated in this manner may not be optimum for the 47 GHz band in view of the frequencies involved and the nature of the services that we expect will be provided. Therefore, commenters who support a boundary limit should propose a specific value and explain the method they used in deriving it.

129. Finally, Section 27.64 of the Commission's Rules[208] states generally that Part 27 stations operating in full accordance with applicable Commission rules and the terms and

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[203] *Millimeter Wave Notice*, 9 FCC Rcd at 7092 (para. 33).

[204] 47 C.F.R. § 24.236.

[205] 47 C.F.R. § 26.55.

[206] 47 C.F.R. § 27.55; *see also Part 27 Report and Order*, 12 FCC Rcd at 10864 (para. 159).

[207] These field strength limits were derived by using formula (7) contained in FCC Report No. R-6406 (issued June 4, 1964) (the "Carey Report"). The 47 dBuV/m for PCS at 1900 MHz assumed a required receiver input power of -123.5 dBw. This same required receiver input power was then used in the formula to calculate the field strengths for these three bands.

[208] 47 C.F.R. § 27.64.