Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C.

In the Matter of	)	
	)	
Amendment to Parts 2, 15, and 97 of the	)	
Commission's Rules To Permit Use of	)	ET Docket No. 94-124
Radio Frequencies Above 40 GHz for	)	RM-8308
New Radio Applications	)	
	)	
International Harmonization of Frequency	)	
Bands Above 40 GHz	)	
	)	
Petition of Sky Station International, Inc.,	)	
For Amendment of the Commission's	)	
Rules To Establish Requirements for a	)	RM-8784
Global Stratospheric Telecommunications	)	
Service in the 47.2-47.5 GHz and	)	
47.9-48.2 GHz Frequency Bands	)	
	)	
Amendment to Part 27 of the	)	
Commission's Rules To Revise Rules	)	
for Services in the 2.3 GHz Band and	)	WT Docket No. 98-136
To Include Licensing of Services	)	
In the 47 GHz Band	)	

MEMORANDUM OPINION AND ORDER ON RECONSIDERATION AND NOTICE OF PROPOSED RULEMAKING

Adopted: June 30, 1998 Released: July 29, 1998

Comment Date: September 21, 1998
Reply Comment Date: October 13, 1998

Comments and Reply Comments to be filed in WT Docket No. 98-136

By the Commission:

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I. INTRODUCTION

1. This decision furthers the Commission's goal of promoting competition by providing spectrum for commercial uses that can make available new and innovative communications services to the public. The action we take today includes a Memorandum Opinion and Order on Reconsideration (Order), and a Notice of Proposed Rulemaking (Notice). In the Order, we deny reconsideration of the *Second Report and Order*, in which the Commission opened for commercial use on a licensed basis the 47.2-48.2 GHz band (47 GHz band), adopted channelization for that band, and determined generally that the band would be licensed on a wide-area basis.[1] In the Notice, we propose service, licensing, and competitive bidding rules for the 47

[1] Amendment of Parts 2 and 15 of the Commission's Rules To Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, Second Report and Order, 12 FCC Rcd 10571 (1997) (*Second Report and Order*). The Notice of Proposed Rulemaking initiating the proceeding is at 9 FCC Rcd 7078 (1994) (*Millimeter Wave Notice*).

GHz band.[2] We also propose to amend the Part 27 Rules to include rules for the 47 GHz band, and to codify and conform certain rules for the 2.3 GHz band to provide for consistent regulation of Part 27 services.

2. As explained in the Notice, we seek to encourage new and innovative services and technologies in the 47 GHz band. Our decisions and proposals recognize the anticipated use of this band for fixed, point-to-multipoint services delivered by platforms located in the stratosphere,[3] but also permit other uses. These decisions and proposals accord with actions taken by the World Radiocommunication Conference (WRC-97), which limited acceptance of notices to the Radiocommunication Bureau for the 47.2-47.5 GHz and 47.9-48.2 GHz bands to stratospheric platform uses and Broadcast-Satellite Service (BSS) feeder links.[4]

A. Memorandum Opinion and Order on Reconsideration

3. Four potential providers of satellite systems or services jointly filed a Petition for Reconsideration of the *Second Report and Order*.[5] They contend that the Commission's finding that stratospheric services are likely to be the dominant use of this band is unsupported and irrational, and that the Commission's initial licensing framework decisions are consequently untenable. Petitioners also assert that the Commission failed to provide adequate notice that the proceeding might make such determinations respecting area-based licensing and channelization, and that such determinations should be made in the separate rulemaking proceeding considering

[2] In order to promote administrative efficiency regarding the management of the various dockets involved in this proceeding, we are creating a new docket for the 47 GHz proceeding. Comments and reply comments concerning the Notice should be filed only in this new docket.

[3] The contemplated stratospheric platform operations constitute fixed services, and are referred to as such herein, although the initial proponent, Sky Station International, Inc., has indicated that it expects to provide mobile services as well. *See Second Report and Order*, 12 FCC Rcd at 10591-92 (para. 55).

The platforms deployed by Sky Station as part of its proposed Global Stratospheric Telecommunications Service (GSTS) would be supported by balloons at an altitude of 18 miles above 250 major metropolitan areas, providing nearly universal global coverage. Using these platforms in conjunction with control facilities on the ground and small personal communications devices, the GSTS system would provide broadband Personal Communications Service (PCS) with video and Internet access capability, interconnected with the public switched telephone network. *Id.*, 12 FCC Rcd at 10580-81 (paras. 23-25).

[4] *See* para. 10, *infra*.

[5] *See* para. 17, *infra*.

allocations in the V-band from 36 to 51 GHz.[6] The Order denies this petition and affirms the decisions made in the *Second Report and Order*.

4. One of the principal contentions made by the petitioners is that service and licensing rules for the 47 GHz band should be deferred until the broader V-band allocation proceeding is resolved. We have decided, however, not to take such an approach, based upon our conclusion that such a deferral would delay use of these frequencies for service to the public. In the *V-Band Notice*, which was adopted prior to the *Second Report and Order* and which proposes a broad approach to allocations in the 36-51 GHz bands, the Commission explicitly contemplated that specific rulemakings, such as the 47 GHz proceeding, would move toward resolution without awaiting Commission action regarding the broader allocation proposals.[7] To the extent that petitioners seek to defer implementation of service and licensing rules in the 47 GHz band pending resolution of the V-band proceeding, which may designate other frequency bands for satellite use, the Commission has already announced a determination of its approach to the priorities of spectrum development, and we are not persuaded by any new evidence that we should take a different approach.

5. The petitioners also assert that the *Second Report and Order* fails to justify the Commission's determination that stratospheric platforms are the likely dominant use of the 47 GHz band, and that the wide-area licensing and channelization decisions effectively preclude satellite use of the 47 GHz band without sufficient notice. As described below, however, we conclude that there is record support for the Commission's dominant use determination,[8] and the Commission's determination respecting dominant use does not preclude satellite use, or any other use in the Table of Allocations, of the 47 GHz band. Petitioners have offered no arguments that persuade us to revisit either the Commission's initial decision respecting the ordering and scope of our rulemaking proceedings, or the specific licensing and channelization decisions in the *Second Report and Order*.

B. Notice of Proposed Rulemaking

6. The second element of the action we take today, the Notice, seeks comment on service, licensing, and competitive bidding rules for the services to be provided in the 47 GHz band. We seek comment in the Notice on specific service rules for the 47 GHz band opened to

[6] Allocation and Designation of Spectrum for Fixed Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.5-50.2 GHz Frequency Bands; Allocation of Spectrum To Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band, Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz Frequency Bands for Government Operations, IB Docket No. 97-95, Notice of Proposed Rulemaking, 12 FCC Rcd 10130 (1997) (*V-Band Notice*).

[7] *Id.* at 10138.

[8] *See* para. 25, *infra*.

commercial use in the *Second Report and Order*.[9] In later proceedings, we will consider service rules for the other segments of the 36-51 GHz band. Consistent with the initial licensing area and channelization determinations contained in the *Second Report and Order*, we seek to develop service rules for the 47 GHz band that will accommodate a range of new and innovative services and technologies to the maximum extent consistent with our findings in the *Second Report and Order* regarding the anticipated use of stratospheric platforms.

7. As explained below, the initial "dominant use" determination in the *Second Report and Order* was not intended, nor does it have the effect, of precluding other technologies or services. This determination represents not an initially prescriptive approach to limiting or tailoring use of the band, but a recognition that when technical constraints make a completely flexible approach technically or economically inefficient or otherwise unworkable, the Commission should have a clearly declared, consistent premise from which to approach and resolve such issues. Determining the extent to which a full range of service and technology alternatives may be accommodated in the 47 GHz band, identifying aspects of our service rules for which unstructured flexibility is not practicable, and developing the least restrictive approaches to such conflicts, are primary purposes of the next phase of this proceeding.

8. We propose to include the service and licensing rules for services to be provided in the 47 GHz band in Part 27 of our Rules. This recognizes the flexibility in existing Part 27 requirements, which we seek to adopt in the specific rules for the 47 GHz band, and also reflects the breadth of services covered by Part 27, which embraces the full range of services allocated to the 47 GHz band by international and domestic allocation tables. We also propose some more general changes to the Part 27 Rules that would also apply to the existing service in the 2.3 GHz band.[10] These rule amendments are intended to codify decisions previously adopted for the 2.3 GHz band, and to ensure consistent treatment of all bands regulated under Part 27 of the Commission's Rules.

9. The technical aspects of the varied technologies that may be employed in the 47 GHz band, their economic characteristics, and the auction process together will determine the initial mix of services and technologies offered in this band. We seek to avoid any regulatory constraints that might limit the flexibility of these arrangements, or delay adoption of subsequent innovations in the 47 GHz band. At the same time, we recognize that development of the 47 GHz band faces several potential tensions. For example, the entire 47 GHz band also continues to be allocated for

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[9] In the *First Report and Order* in this proceeding, the Commission decided, *inter alia*, to make available the 46.7-46.9 GHz band for vehicular radar systems, rather than the 47.2-47.4 GHz band as proposed in the *Millimeter Wave Notice*. *See* Amendment of Parts 2 and 15 of the Commission's Rules To Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, First Report and Order, 11 FCC Rcd 4481 (1995) (*First Report and Order*). Thus, the 47.2-47.4 GHz band was available for licensed, commercial use.

[10] *See* paras. 68, 70, 90, 98, 111, 113, and 129, *infra*.

Government use; this presents complications for commercial licensees with respect to technical capability, system planning, and competitive bidding for licenses. The Notice thus seeks comment on several different approaches to reconciling commercial development of this spectrum with Government uses.

10. We also note that, following the Commission's adoption of the *Second Report and Order*, WRC-97 adopted resolutions that limit acceptance of notices to the Radiocommunication Bureau[11] for the 47.2-47.5 GHz and 47.9-48.2 GHz portions of the 47 GHz band[12] to stratospheric platform uses and BSS feeder links, pending review at WRC-99. While these actions do not preclude authorization of different uses of these portions of the 47 GHz band, such uses would not be accorded protection from interference nor could they cause any interference to allocated services.[13] Thus, to the extent that satellite entities continue to advocate the use of the 47 GHz band for satellite services other than those specified in the WRC-97 actions, the Notice asks satellite providers to describe the circumstances that support such uses, and to address the implications of such departures.[14]

11. Finally, we recognize that the prospect of different service and technology approaches for use of 47 GHz spectrum requires that our service area, channelization, and competitive bidding rules should not unnecessarily inhibit the range of choices considered by service providers. The Notice thus seeks comment on approaches to sharing spectrum by different

[11] The Radiocommunication Bureau, as an entity of the International Telecommunication Union (ITU), has the responsibility to "process information received from administrations in application of the relevant provisions of the Radio Regulations . . ." and to "effect an orderly recording and registration of frequency assignments . . . ." *See* ITU Convention (Geneva, 1992).

[12] WRC-97 provided for operation of stratospheric platform stations within the 47.2-47.5 GHz and 47.9-48.2 GHz bands. Footnote S5.552A to the International Table of Frequency Allocations; Resolution 52 (WRC-97); Resolution 122 (WRC-97).

[13] The International Radio Regulations provide in No. 342:

> Administrations of the members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations given in this Chapter or the other provisions of these Regulations, except on the express condition that harmful interference shall not be caused to services carried on by stations operating in accordance with the provisions of the Convention and of these Regulations.

Radio Regulations, Dec. 6, 1979, Annex, Art. 6, § 4, S. Treaty Doc. No. 21, 97th Cong., 1st Sess. (1981), ratified, 97th Cong., 2d Sess., 128 CONG. REC. 33,138 (1982).

[14] *See* para. 57, *infra*.

technologies, recognizing that international studies of sharing are pending.[15] It also seeks comment on national or regional approaches to bidding for 47 GHz spectrum.

II. BACKGROUND

12. The *Millimeter Wave Notice* that initiated this proceeding originally proposed to make available a total of 18 gigahertz of spectrum in the frequency range between 40.5 GHz and 153 GHz, on a shared basis with Government users, for the commercial development of "short-range wireless radio systems."[16] The *Millimeter Wave Notice* recognized that current allocations for the affected bands above 40 GHz permit a wide diversity of terrestrial and satellite services, and, in the absence of information as to which potential services might represent the highest valued use of spectrum, proposed to retain the full range of services allowed under the Table of Frequency Allocations.[17] The *Millimeter Wave Notic*e, however, also noted that the specific frequency bands proposed to be made available for commercial use might be altered in the final Rules.[18] While not proposing revisions to the permitted uses listed in the Table of Frequency Allocations, the Commission did propose to determine licensing rules for the several millimeter wave bands on the basis of its best judgment of likely dominant use for the spectrum, rather than by designing such rules on the basis of a prescribed use.[19] The Commission also invited suggestions for rules "that would enhance the use of specific bands for particular services."[20]

13. Because the Commission believed many uses of the millimeter wave spectrum would be technically and operationally similar to the proposed use of the 28 GHz band for Local Multipoint Distribution Service (LMDS), the Commission proposed generally to model its licensing rules after those proposed in the LMDS proceeding.[21] For example, the 47.4-48.2 GHz

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[15] *See* Resolution 122, Final Acts, WRC-97, "Use of the Bands 47.2-47.5 GHz and 47.9-48.2 GHz by High Altitude Platform Stations in the Fixed Service and by Other Services."

[16] *Millimeter Wave Notice*, 9 FCC Rcd at 7078 (para. 2). The term millimeter wave spectrum is taken from the fact that the wavelength of radio signals on frequencies between 30 GHz and 300 Ghz ranges between 1 and 10 millimeters. *Id*. at 7078 (para. 1 n.1).

[17] *Id*. at 7087 (para. 21).

[18] *Id.* at 7084 (para. 12 n.19).

[19] *Id*. at 7087 (para. 22).

[20] *Id*. at 7083-84 (para. 12).

[21] *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, Petitions for Reconsideration of the Denial of Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules, CC Docket No. 92-297, Suite 12 Group Petition for Pioneer Preference, PP-22, Notice of Proposed Rulemaking, Order, Tentative Decision, and Order on Reconsideration, 8 FCC Rcd 557 (1993) (*LMDS Rulemaking*).

band could be divided into two 400 megahertz contiguous blocks.[22] The Commission also proposed to use larger service areas, both to accommodate a broader range of uses and technologies than contemplated for LMDS, and to produce economies of scale and reduce coordination requirements to assist the initiation of a variety of new services.[23]

14. By its subsequent *V-Band Notice*, the Commission proposed to designate certain frequency bands for fixed-satellite services, and also sought comment on an integrated allocation plan for the use of spectrum in a selected range of "millimeter wave" frequencies, specifically the 36-51.4 GHz band.[24] The Commission stated in the *V-Band Notice* that consideration of the proposed allocation plan would not delay resolution of issues in other proceedings considering allocations in specific frequency bands.[25] In this proceeding we are therefore moving forward, consistent with the *V-Band Notice*, to develop service rules for the 47 GHz band.[26]

III. MEMORANDUM OPINION AND ORDER ON RECONSIDERATION

A. Background

15. The *Second Report and Order* adopted the Commission's proposal to license the 47 GHz band for commercial service and to allow licensees to provide any domestically allocated service. When the *Second Report and Order* was adopted by the Commission, the 47 GHz band was allocated both domestically and internationally to the Fixed, Mobile, and Fixed-Satellite Services (FSS), with an international footnote to the FSS allocation urging that the band be used for BSS feeder links.[27] The Commission stated that this approach to the 47 GHz band reflected both the priority attached to making spectrum available for commercial development, and the limited information available as to which potential services likely represent the highest valued use of the spectrum.[28]

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[22] *Millimeter Wave Notice*, 9 FCC Rcd at 7087-88 (paras. 22-23).

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

[24] *See V-Band Notice.* The proposed band plan recognizes that technological developments have sparked new uses for these bands that were not contemplated by the *Millimeter Wave Notice*. *V-Band Notice*, 12 FCC Rcd at 10133 (para. 6).

[25] *Id.* at 10138 (para. 16).

[26] *See* paras. 34-36, *infra*.

[27] *See* Section 2.106 of the Commission's Rules, 47 C.F.R. § 2.106. As noted, while these allocations have not been changed, the Radiocommunication Bureau as of November 22, 1997, was directed to accept only notifications for the 47 GHz band that involved stratospheric platform services or BSS feeder links. *See* para. 10, *supra*.

[28] *Second Report and Order*, 12 FCC Rcd at 10576 (para. 10).

16. In the *Second Report and Order*, the Commission made the 47 GHz band available for licensed commercial use on the basis of wide-area licenses, and divided the band into five pairs of 100 megahertz spectrum blocks, with each pair separated by 500 megahertz of spectrum.[29] The Commission referred to the 47 GHz band as a "frontier" band and concluded that it was not possible to determine the exact nature of the services that might be offered in the 47 GHz band.[30] The Commission emphasized, however, that it wanted to encourage the full range of services allowed under the Allocation Table to develop in the 47 GHz band.[31] As a result, the Commission recognized that it had to depart from its traditional practice of developing licensing and service rules within the context of certain prescribed uses. Instead, the Commission utilized a dominant use test under which it used its best judgment to determine the likely dominant use of the band.[32] The Commission found this use to be "fixed, point to multi-point services delivered through the deployment of fixed platforms located in the stratosphere."[33] While the Commission stated that it would use this dominant use finding to develop licensing and service rules for the 47 GHz band, it deferred deciding more specific service, licensing, and competitive bidding rules to a later stage of this proceeding.

17. A Petition for Reconsideration of the *Second Report and Order* was filed by four entities involved in the provision of satellite systems or services: Hughes Communications, Inc. (Hughes), Motorola Satellite Systems, Inc. (Motorola), TRW, Inc. (TRW), and GE American Communications, Inc. (GE Americom). These parties had filed satellite applications in the 40 GHz band before their reconsideration petition was submitted, or submitted applications shortly thereafter. Petitioners request the Commission to reconsider its finding that the likely dominant use of the 47 GHz band would be fixed, point-to-multipoint services delivered through the deployment of fixed platforms located in the stratosphere. Petitioners argue instead that the likely dominant use of the band will be satellite services.

B. Likely Dominant Use of 47 GHz Spectrum

18. Petitioners first contend that the Commission failed to explain the basis for its finding that stratospheric platforms are the likely dominant use of 47 GHz spectrum, or to address evidence in the record that weighs against that finding, so that the *Second Report and Order* is

[29] The channel pairs thus are: (1) 47.2-47.3 and 47.7-47.8 GHz; (2) 47.3-47.4 and 47.8-47.9 GHz; (3) 47.4-47.5 and 47.9-48.0 GHz; (4) 47.5-47.6 and 48.0-48.1 GHz; and (5) 47.6-47.7 and 48.1-48.2 GHz.

[30] *Second Report and Order*, 12 FCC Rcd at 10593 (para. 61).

[31] *Id.* at 10594 (para. 64).

[32] *Id*. 10596 (para. 68).

[33] *Id*. at 10573 (para. 2).

unsupported and irrational in this respect.[34] Petitioners state that satellite firms have emphasized the need to maintain access to the 47 GHz band for satellite systems, both in the 47 GHz proceeding and in their filings in response to the *V-Band Notice*, and have supported these contentions by filing several complete applications for satellite systems requesting the use of the 47 GHz band.[35]

19. The petitioners specifically contend that the Commission has failed to consider, much less explain, why Motorola's M-Star application, filed in September 1996, is not a better indicator of likely dominant use of the 47 GHz band than the Sky Station proposal, filed in March 1996.[36] Petitioners argue that the Commission considered the Sky Station application on its merits well after the March 1, 1995 close of the 47 GHz pleading cycle, but the same consideration was not given to the Motorola M-Star application.[37] In sum, petitioners assert, the several satellite applications and comments by satellite entities in the V-band proceeding preclude a rational determination that a single, "illustrative" application by Sky Station, which provoked no competing application, establishes the technology to be employed by Sky Station as the likely dominant use of the 47 GHz band segment.[38]

20. Sky Station responds that the majority of commenters, including public interest parties, supported designation of spectrum for stratospheric platforms to improve communications within and between developing countries.[39] The only public interest comments, Sky Station asserts, supported designation for the stratospheric platform service, and predicted large-scale use of the service. Applications of the type filed by the satellite carriers, Sky Station contends, are not a measure of real spectrum demand.[40] The several pending satellite applications, Sky Station asserts, are explained by the opening of a filing window and cutoff date; similar responses would follow opening of a filing window for stratospheric service.[41] Sky Station states that its proposal would occupy approximately 7 percent of the V-band, compared to the satellite entities' established occupancy of approximately 80 percent of the commercially available

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[34] Petition for Reconsideration (Sept. 11, 1997) at 2-3, 5-6. The *Second Report and Order* was adopted May 2, 1997, three days prior to the due date for initial comments in the V-band proceeding, but was not released until July 21, 1997. Petitioners contend that, because the V-band pleading cycle closed June 3, 1997, the Commission had ample time to consider pleadings filed in response to the *V-Band Notice*.

[35] *Id*. at 6-7.

[36] *Id*. at 8.

[37] *Id*.

[38] *Id*. at 9-10.

[39] Sky Station Opposition (Oct. 17, 1997) at 3.

[40] *Id*. at 4, 13-14 n.22.

[41] *Id*. at 9-10. Filing windows for terrestrial fixed (and mobile) services are generally not opened prior to final adoption of relevant service rules. *See* para. 26, *infra*.

bandwidth over the 36-51.4 GHz range, so there is little reason to fear adverse consequences for the satellite industry.[42]

21. Sky Station notes that courts accord great deference to agencies' exercise of discretion when predictions are involved,[43] and that the Commission's conclusion regarding expected use of the band reflected record evidence demonstrating concrete advantages of stratospheric platforms, including low-cost global services resulting from efficient spectrum use; high bandwidth for fixed services; and smaller initial investment and modular technology.[44] Sky Station quotes from several comments supporting stratospheric platform technology as preferable on the basis of cost and availability to satellite offerings, and as desirable for a variety of services, including news gathering, search and rescue missions, and weather prediction.[45] Sky Station also notes that the then pending joint proposal to WRC-97 on behalf of nine nations in the Americas sought designation of 47 GHz bands within the fixed service so that systems could use a common band around the globe, and states that support for global stratospheric service has been sent to the ITU from the Conference of European Postal and Telecommunications Administrations (CEPT), the Inter-American Telecommunications Conference (CITEL), and Asian Pacific Telecommunications (APT).[46]

22. With regard to the specific dominant use decision at issue, the record supports the Commission's earlier determination that stratospheric platforms are the likely dominant use of the 47 GHz spectrum band. The *Second Report and Order* references numerous supporting statements submitted in response to the Sky Station Request and Petition. The assertedly lower capital requirements, compared to satellite systems, and the flexibility to sequentially activate stratospheric platforms as demand and revenue warrant, present clear, if not yet demonstrated, benefits for a variety of applications. These expected benefits have engendered substantial interest from potential users in the United States and abroad. The statements noted in the *Second Report and Order* were necessarily anticipatory, and do not purport to address or resolve the range of outstanding implementation concerns, but this is inherent in any evolving technology.[47]

23. The broad expressions of domestic and international interest in developing the stratospheric platform technology have since been substantially confirmed by subsequent actions

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[42] *Id*. at 3-4.

[43] *Id*. at 9.

[44] *Id*. at 4-5, 7-8.

[45] *Id*. at 6-7, citing comments from African Development Bank, National Institute for Urban Search and Rescue, and Mercy Medical Airlift.

[46] *Id*.

[47] As explained at paras. 42-43, *infra*, these uncertainties support an approach to service rules that will allow as much flexibility as possible to accommodate alternative approaches, including satellite services.

taken at WRC-97, which designated a portion of the 47 GHz band for stratospheric platform and BSS feeder link use, and limited frequency registration filings with the Radiocommunication Bureau in that portion to those uses.[48] This international action, explicitly preferring stratospheric platform technology for specified segments of the 47 GHz frequency band by precluding notices to the Radiocommunication Bureau involving other technologies, reinforces the Commission's prior determination that stratospheric platforms are the likely dominant use of the 47 GHz frequency band.

24. Second, despite petitioners' contentions, evidence of support for satellite services was considered in the *Second Report and Order*.[49] The Commission concluded that "all identified uses of the 47 GHz band may be valuable and should be permitted."[50] Indeed, the *Second Report and Order* cited Motorola's M-Star application as a new potential delivery system for point-to-multipoint services.[51] The Commission reasoned that it should not foreclose new and innovative services and technologies permitted by the Allocation Table. Thus, the Commission did take into account claims by satellite carriers regarding potential satellite services in the band, and the Commission also stressed the importance of promoting the use of new and innovative technologies in developing the band. Notwithstanding these considerations, however, the Commission found sufficient basis to conclude that stratospheric platforms were the likely dominant use for the band, based in part on the specific uses of the band delineated by Sky Station in the record.[52]

25. This determination (and the related service area and channelization decisions) does not preclude the application of satellite technology. The dominant use determination did, however, establish a reasoned basis for subsequent resolution, in the proceeding to develop service rules, of any issues that present a conflict between accommodating multiple technologies or system configurations. In determining the likely dominant use, the Commission noted that several commenters had stated that they did not seek to use the spectrum now for satellite service, but rather seek to retain access to the band in case of future need.[53]

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[48] Consistent with these international developments, we seek comment in the Notice on considerations that might warrant satellite uses of the 47 GHz band beyond those contemplated by the International Table of Frequency Allocations. *See* para. 57, *infra*.

[49] As explained at para. 33, *infra*, the comments filed in response to the *V-Band Notice* were not considered because they were filed after the adoption of the *Second Report and Order*.

[50] *Second Report and Order*, 12 FCC Rcd at 10573 (para. 3).

[51] *Id.* at 10596 (para. 70 & n.103).

[52] *Id.* at 10596 (para. 69).

[53] *Id.* at 10592-93 (para. 58), citing comments by Hughes and Motorola.

26. We find Petitioners' reference to satellite applications as supporting a different conclusion respecting dominant use of the 47 GHz band to be unpersuasive. While petitioners refer to pending satellite applications for the use of frequencies above 40 GHz as indicative of likely dominant use, such applications are not necessarily the best indicators of final system configuration or services to be delivered. Such applications are subject to later modification and are commonly refiled to demonstrate compliance with subsequently adopted service rules. This practice reflects the Commission's approach to satellite licensing, which has traditionally allowed satellite entities to submit preliminary applications *before* licensing rules are adopted.[54] In contrast, the Commission does not generally allow the filing of applications for other services, such as fixed terrestrial services, prior to the adoption of licensing and service rules. For non-satellite services, therefore, the filing of applications presupposes the specification of service rules which are intended to define the parameters essential to expedited implementation of the service, including the review of individual applications, and the determination of system parameters, service costs, and competitive prospects to such a point that applicants are able and can be required to present specific proposals for review.[55] In these circumstances, we agree with Sky Station that the satellite applications were triggered by the filing cut-off date, and we conclude that the number of satellite applications is not dispositive in determining likely dominant use.

27. In light of these circumstances, the authorities cited by petitioners to emphasize the Commission's obligation to consider relevant evidence, provide a reasoned basis for decision, and articulate a rational connection between the evidence and the decision are fully satisfied by the Commission's analysis.[56] The Commission in the *Second Report and Order* considered arguments advanced by satellite advocates, and explained why it determined stratospheric platforms to be the likely dominant use of the 47 GHz frequency band.[57] Moreover, the Commission has here

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[54] *See, e.g.*, Public Notice, Applications Accepted for Filing; Cut-Off Established for Additional Space Station Applications and Letters of Intent in the 36-51.4 GHz Frequency Band, Report No. SPB-89, DA 97-1551, July 22, 1997. That Public Notice states that "[a]pplicants filing by the cut-off date will be afforded an opportunity to amend their applications, if necessary, to conform with any requirements and policies that may be adopted subsequently for space stations in these bands."

[55] Although petitioners refer to the pending satellite applications to support their contentions respecting dominant use, rather than asserting any procedural or substantive rights, we note that it is well established that pendency of applications does not create a right to hearing nor otherwise constrain agency discretion. *See* Hispanic Info. & Telecomms. Network v. FCC, 865 F.2d 1289, 1294-95 (D.C. Cir. 1989); Schraier v. Hickel, 419 F.2d 663, 667 (D.C. Cir. 1969).

[56] *Cf.* Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co., 463 U.S. 29 (1983) (Rescission by the National Highway Traffic Safety Administration (NHTSA) of a standard requiring automatic passenger restraints was arbitrary and capricious because NHTSA failed to consider alternative technologies, and did not articulate a basis for its failure to require technology alternatives within the ambit of the standard.); Schurz Communications v. FCC, 982 F.2d 1043 (7th Cir. 1992) (The Commission's articulation of its grounds for new financial interest and syndication rules governing the broadcast networks was not adequately reasoned.)

[57] *See* para. 24, *supra*.

explained repeatedly its intention to preserve the possibility of accommodating other services, while focussing on the encouragement of new and innovative technologies. The Commission's decision on the spectrum newly made available for commercial use has also been supported by subsequent international action.[58] The Commission in the *Second Report and Order* has weighed the arguments of satellite providers and, consistent with its clearly stated intentions in separate decisions respecting spectrum allocation more generally, has moved forward with the 47 GHz rulemaking rather than defer potentially innovative service alternatives pending resolution of other proceedings.[59]

28. Further, the Commission has not departed from an established decisional standard, as argued by petitioners.[60] The Commission has not announced "binding precedent" in the *Second Report and Order — e.g.*, a determination of how particular 47 GHz service rules will (or might) accommodate or constrain specific technical approaches — by either rulemaking or by a general statement of policy. The Commission's initial determination of likely dominant use does not preclude any other services consistent with the domestic spectrum allocations for this band. Rather, it establishes a point of departure for the next regulatory phase — the development of licensing and service rules for the range of technologies and services contemplated in this frequency band. The determination of likely dominant use is not a determination of exclusive or preclusive use, but recognizes that the subsequent process of specifying technical parameters may identify conflicts between uses such that setting operational standards effectively, and necessarily, results in according priority to a specific use. The extent to which such conflicts may result in practical constraints on particular uses of the band is yet to be determined. Neither the record in the *Second Report and Order*, nor the rationale for the Commission's decision, purports to identify and address the range of potential technical conflicts that may arise between alternative point-to-multipoint technologies. The *Second Report and Order* bases its determinations on conclusions rationally drawn from the record and, as described, coheres procedurally with the Commission's proposed approach to other frequency bands in the *V-Band Notice*.

29. If the subsequent determination of licensing and service rules identifies irreconcilable technical conflicts between specific technologies, the resolution of such conflicts will be based on the record in the next stage of this proceeding. Moreover, the proposed designations in the *V-Band Notice* are there made explicitly subject to pending rulemaking proceedings for specific frequency bands, including the 47 GHz band.

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[58] *Id*.

[59] *See* para. 25, *supra*.

[60] *Cf*. Bechtel v. FCC, 957 F.2d 873 (D.C. Cir. 1992) (the Commission was required to directly confront a competing applicant's contention that intervening regulatory changes had rendered the Commission's continuing use of a standard adopted in 1965 arbitrary and capricious); Action for Children's Television v. FCC, 821 F.2d 741 (D.C. Cir. 1987) (the Commission's withdrawal of commercialization guidelines for children's television lacked a reasoned basis).

30. Given the evidence with respect to interest in stratospheric platforms, as well as the Commission's consideration of other uses and the Commission's decision to permit all uses in the Allocations Table, we affirm the dominant use determination in the *Second Report and Order*, and deny the Petition for Reconsideration in that respect.

C. V-Band Rulemaking Proceeding

31. Petitioners contend that the dominant use determination for the 47 GHz band should not have been made separately from resolution of the Commission's pending proposals in the *V-Band Notice* for service designations in the 36-51 GHz frequency bands. From the outset, however, the Commission made clear that these broader proposals should not delay resolution of pending proceedings for specific bands. Petitioners' argument that individual bands cannot be considered apart from the *V-Band Notice* proposals runs counter to established agency discretion to order its own proceedings, and the need for finality in such decisions.

32. Petitioners assert that the *Second Report and Order* is inextricably intertwined with the proposed V-band designation plan, and they state that the tentative designation of the 47 GHz band for wireless services in the *V-Band Notice* generated significant contention. Petitioners assert that the record in the V-band proceeding wholly undercuts the basis for the Commission's determination of likely dominant use in the *Second Report and Order*.[61] Nor, according to petitioners, did the Commission discuss the several comments of satellite companies submitted in response to the *V-Band Notice*, although the Commission relied on aspects of the *V-Band Notice* to support its conclusions in the *Second Report and Order*.[62]

33. The *Second Report and Order* was adopted by the Commission before the record closed in the V-band rulemaking proceeding. Therefore, the Commission could not consider the V-band record in its *Second Report and Order.* To incorporate that proceeding's record would have required the Commission first to reconsider the *Second Report and Order* on its own motion, and then to expand the scope of its dominant use determination to include alternatives discussed in a different proceeding. This would not only set aside the Commission's explicitly declared approach to ordering these proceedings, but would presumably — in the view of satellite advocates — entail consideration of other frequency bands to be used for satellite service in conjunction with the 47 GHz band. We conclude that the petitioners are simply wrong to the extent they maintain that we were under some procedural obligation to proceed in the manner they advocate.

34. Aside from these procedural requirements, the argument advanced by petitioners encounters another problem: the *V-Band Notice* itself declared the Commission's intent to resolve

[61] Petition for Reconsideration at 3.

[62] *Id*. at 8-9.

the pending 47 GHz frequency band proceeding without waiting for final resolution of the overall V-band allocation plan. The *V-Band Notice*, released several weeks before adoption of the *Second Report and Order*, made clear that the Commission anticipated that service rule proceedings for specific frequency bands would be resolved independently. The Commission concluded that "[t]o defer action on other rulemakings, pending the outcome of this proceeding, would cause unnecessary delay in licensing commercial operations throughout the 36-51.4 GHz band."[63] During the period after release of the *V-Band Plan Notice* and before release of the *Second Report and Order*, when preparing comments for the V-band proceeding, petitioners were on notice that action in the 47 GHz band proceeding was not dependent on proposals or comments in the *V-Band Notice*.

35. Petitioners also assert that the Commission's action in the *Second Report and Order* is no better than its action affecting payphone service providers, which was remanded as arbitrary and capricious in *Illinois Public*.[64] The court in *Illinois Public*, however, stated that the Commission had failed to respond to or even acknowledge data showing dissimilar costs for different types of payphone calls.[65] In the *Second Report and Order*, in contrast, the Commission considered the arguments of satellite providers and explained, consistent with its broader approach to designation of spectrum, why those arguments are unpersuasive in this instance. The subsequent international actions by WRC-97 reinforce our view that, while anticipating the dominant use of spectrum newly made available for commercial use requires judgment, the Commission's decision considered all viewpoints expressed in the record of this proceeding and cannot be viewed as arbitrary and capricious.

36. Petitioners' contentions that the *Second Report and Order* effectively precludes satellite use of the 47 GHz frequency band, and that the V-band proceeding should consider 47 GHz issues as part of its broader inquiry, thus amount to a call for a different approach than the Commission has explicitly adopted. The *V-Band Notice* disavowed any intent to defer this proceeding. The Commission decided it was not necessary to delay action on the 47 GHz band in order to consider its potential uses in conjunction with other bands under review in the broader proceeding. The relative weight to be accorded innovations in service, domestic competition between providers, and global ("seamless") systems in this individual instance remains to be determined in the licensing rules, and these issues are considered in the Notice we adopt today. We therefore deny reconsideration of the *Second Report and Order* to the extent it is sought on the basis of that decision's relation to the V-band proceeding.

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[63] *V-Band Notice*, 12 FCC Rcd at 10138 (para. 16).

[64] Illinois Public Telecom. Ass'n v. FCC, 117 F.3d 555 (D.C. Cir. 1997) (*Illinois Public*).

[65] *Id*. at 564.

D. Wide-Area Licensing and Channelization

37. Petitioners assert that the adoption of wide-area licensing and paired 100 megahertz license blocks by the Commission in the *Second Report and Order* is premised on the Commission's finding that stratospheric platforms are the likely dominant use of the 47 GHz band, and, as that initial premise is not supported by the record, the wide-area licensing and channelization determinations based on it are unsustainable.[66] Petitioners construe specific language in the *Second Report and Order* as suggesting, "despite other assurances that all allocated services will be permitted to utilize the 47 GHz band," that the effect of the *Second Report and Order* will be to accommodate stratospheric platforms and other terrestrial services, but not satellite systems.[67] Petitioners contend that the Commission effectively accommodated Sky Station and other terrestrial services, but at the same time conceded that deployment of Sky Station platforms will "likely have a preclusive effect on satellite use of the same frequency band," despite the Commission's conclusion that the band remains allocated for satellite use.[68] Thus, petitioners contend, the Commission must reconsider aspects of the licensing framework for the 47 GHz band adopted by the *Second Report and Order*.

38. Sky Station responds that the wide-area licensing plan originated in the *Millimeter Wave Notice* and enjoys general support. The Commission has developed substantial experience in defining licensing areas for other wireless services and is entitled to substantial deference, says Sky Station, and paired 100 megahertz spectrum blocks allow for intensive spectrum use and enable a larger number of licensees.[69]

39. We do not find the petitioners' arguments persuasive. As an initial matter, the petition does not indicate how the wide-area licensing determined by the *Second Report and Order*, or the 100 megahertz channelization decision, foreclose satellite use. Indeed, the wide-area licensing approach comports with satellite systems' reliance on ubiquitous coverage of large areas. The decision to subdivide this spectrum into 100 megahertz channel pairs, in contrast to the two 400 megahertz contiguous blocks proposed in the *Millimeter Wave Notice*, does not inherently preclude satellite services. Access to 400, 800, or even the entire 1,000 megahertz of this band, and its use for satellite services, would turn in part on the technical difficulty of a specific approach to channelization as well as the outcome of the auction process.

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[66] Petition for Reconsideration at 10.

[67] *Id*., citing *Second Report and Order*, 12 FCC Rcd at 10585 (para. 37) ("the spectrum Sky Station seeks to use is the subject of this proceeding in which rules can be proposed to accommodate its service, as well as other terrestrial services in 47 GHz").

[68] *Id*. at 10.

[69] Sky Station Opposition at 14-15.

40. Satellite use of this band, however, is initially dependent on the Commission's making other spectrum available, outside the 47 GHz band, for pairing purposes.[70] All satellite proposals before the Commission that entail the use of the 47 GHz band are premised on the availability of a second band rather than on pairing within the 47 GHz band itself. The channelization adopted is thus not inconsistent with the needs of satellite technology, and with existing satellite services implemented in other frequency bands.[71] The petitioners do not present any arguments or evidence that would cause us to reassess the Commission's prior decision.

41. Should the Commission decide in a separate proceeding to make another frequency band available for satellite service, that band could be paired with the 47 GHz band to the extent that licensing and service rules proposed for the 47 GHz band are adopted in a form that accommodates satellite services, and so enable satellite interests to pursue their various plans. If, on the other hand, the Commission decides not to make another frequency band available, then satellite proposals that would require both that band and the 47 GHz band for implementation may be precluded. In that instance, however, satellite use of the 47 GHz band would be precluded by the absence of a frequency band suitable for pairing with 47 GHz — not by particular licensing and service rules for the 47 GHz band that have not yet been adopted. Thus, we find no basis for the argument made by petitioners that the Commission's decisions regarding service areas and channelization by themselves will foreclose satellite operations in the 47 GHz band.

42. Rather than assert or describe actual preclusive effects from these determinations in the *Second Report and Order*, petitioners in effect challenge the licensing and channelization decisions as unsustainable because they are "premised entirely" on the dominant use determination made by the Commission. There is no basis for concluding, however, at this juncture of the 47 GHz rulemaking proceeding, that the Commission's dominant use determination will prevent satellite operations in the 47 GHz band. The significance of the Commission's dominant use finding is that it signals the Commission's intention to develop service rules crafted to accommodate point-to-multipoint stratospheric platform technology, *but* the service rules are also intended to be as flexible as possible, and to maintain prospects for as wide a range of alternative technologies and services as practicable.

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[70] Satellite systems generally employ "paired" up- and down-links, separated by significant bandwidth to minimize interference.

[71] Existing satellite services in other bands comparable to the 47 GHz band generally require several hundred megahertz for each of the paired channels, though some services use non-contiguous channels of less than 100 megahertz. Some system configurations may be supportable in the 47 GHz band by multiple, though non-contiguous, 100 megahertz channels. Thus, satellite operators would need to bid for the 100 megahertz channels in the 47 GHz band to obtain either sufficient spectrum or contiguous channels suitable for aggregation, if a familiar service configuration is their desire. The Notice seeks comment on approaches to the bidding process that reflect this alternative.

43. In sum, consideration of the service rules we propose today and responsive comments will indicate the extent to which satellite providers can use the 47 GHz band for their services, including their ability or inability to share spectrum with platform or other fixed services in specific licensing areas. In the absence of any explanation how the determinations regarding wide-area licensing and channelization preclude satellite services, and with the remaining licensing and service rules subject to the proceeding initiated by the Notice, we fail to see how the designation of a likely dominant use forecloses or even affects satellite service at this juncture. We therefore deny reconsideration of these determinations.

E. Administrative Procedure Act Notice Requirements

44. Finally, petitioners state that the Commission did not follow the notice requirements of the Administrative Procedure Act (APA) when it supposedly changed the nature of the proposal in the 47 GHz rulemaking. Petitioners assert that the *Second Report and Order* relies on a position first articulated in a late-filed *ex parte* submission to which other parties neither consented nor were provided opportunity to respond, and which raises issues not addressed in the Commission's proposals in the *Millimeter Wave Notice.*[72] According to petitioners, the late-filed comments submitted by Sky Station in December 1996 caused the Commission to alter the fundamental nature of previous proposals by advocating that the Commission prevent satellite operations in this part of the band. They further contend that the licensing framework consequently adopted in the *Second Report and Order* "will likely preclude satellite systems from sharing the same spectrum."[73]

45. We find no basis for the claim made by petitioners that the Commission lacked sufficient notice for its actions in the *Second Report and Order*. Sky Station proposals that would limit satellite use of the 47 GHz band — whether the suggestions contained in the original, March 20, 1996, request that we establish a new service category for allocation purposes, or the suggestion in the later, December 24, 1996, filing that we dedicate an allocation of spectrum for stratospheric platform use — were not placed on notice as a supplemental notice of rulemaking, but neither were they adopted.

46. In its late-filed comments, Sky Station advocated band segmentation premised on a dedicated designation of spectrum to stratospheric platforms, rather than a more flexible approach that would permit any type of service allowed by the Table of Allocations. But the *Second Report and Order* declined to adopt that approach, and instead adopted the more flexible licensing and channelization determinations.[74] The petitioners' reliance on *Donovan*[75] is thus misplaced; there,

[72] Petition for Reconsideration at 11.

[73] *Id*.

[74] As described in paras. 39-43, *supra*, neither the determination of likely dominant use nor the related licensing and channelization decisions have the preclusive effect attributed to them by petitioners. In addition, the

the court found notice insufficient when a regulation was in fact revised, but the first notice to affected parties that such a revision was even under consideration was the agency's *adoption* of the revision as a final rule.[76]

47. We disagree with the claim made by petitioners that the *Millimeter Wave Notice* did not provide adequate notice for the service rule decisions made by the Commission in the *Second Report and Order* because, according to the petitioners, these decisions fundamentally changed the proposals made by the Commission in the *Millimeter Wave Notice*. The APA notice requirement for legislative-type rulemakings requires that issues under consideration be adequately identified. The *Millimeter Wave Notice* specifically invited suggestions for rules "that would enhance the use of specific bands for particular services," and stated that both the frequency bands proposed for commercial use and their technical standards might be altered in the final rules.[77] The *Millimeter Wave Notice* also stated that licensing rules would follow the likely dominant use.[78] Since the measures adopted in the *Second Report and Order* are within the scope of the proposals made in the *Millimeter Wave Notice*,[79] we reject the claim made by petitioners that these measures lacked sufficient notice.

48. Courts have repeatedly held that the APA notice requirement is satisfied where the final rule is a "logical outgrowth" of the rulemaking proposal.[80] The focus of this test is "whether ... [the party], ex ante, should have anticipated that such a requirement might be imposed."[81] Moreover, notice is sufficient where the description of the "subjects and issues involved" affords interested parties a reasonable opportunity to participate in the rulemaking.[82]

Commission has announced its proposal to determine actual licensees by auction. *Millimeter Wave Notice*, 9 FCC Rcd at 7089-90 (paras. 26-28). The proposed service rules provide sufficient flexibility to enable satellite operators to bid for and use this band.

[75] American Federation of Labor and Congress of Industrial Organizations v. Donovan, 757 F.2d 330 (D.C. Cir. 1985) (*Donovan*).

[76] The court stated that "the first indication we have found from the agency itself of any contemplated modification was in the final rule itself, as adopted on October 27, 1983." *Id*. at 339.

[77] *Millimeter Wave Notice*, 9 FCC Rcd at 7084 (para. 12 n.19).

[78] *Id*. at 7087 (para. 22). In the broad context of the *Millimeter Wave Notice*, that statement referred to the anticipated use of frequency bands — for the 47 GHz band, point-to-multipoint services using a variety of technologies.

[79] *See* paras. 48-50, *infra*.

[80] *See, e.g.*, Aeronautical Radio, Inc. v. FCC, 928 F.2d 428, 445-46 (D.C. Cir. 1991); United Steelworkers of America v. Marshall, 647 F.2d 1189, 1221 (D.C. Cir. 1980), *cert. denied*, 453 U.S. 913 (1981).

[81] Small Refiner Lead Phase-Down Task Force v. EPA, 705 F.2d 506, 549 (D.C. Cir. 1983).

[82] Transpacific Freight Conference of Japan/Korea v. Federal Maritime Commission, 650 F.2d 1235, 1248 (D.C. Cir. 1980).

49. We also reject the claim made by the petitioners that the Commission somehow went beyond the bounds of the *Millimeter Wave Notice* because it took action in the *Second Report and Order* that precludes use of satellite technology in the 47 GHz band. The *Second Report and Order* does not have any such effect. The extent to which technical obstacles to spectrum sharing by such technologies may require service rules in the 47 GHz band that could impede the use of one or more technologies has not yet been decided. Further, while we do not regard the initial determinations of license structure as having a preclusive effect, the *Millimeter Wave Notice*, as noted, also advised parties that both the frequency bands and technical standards proposed might be altered in the final rules.[83] We conclude that decisions made by the Commission in the *Second Report and Order* regarding channelization and wide-area licensing are well within the scope of the notice provided in the *Millimeter Wave Notice*.

50. We emphasize that our primary purpose in making available spectrum in the 47 GHz band is to encourage new technologies and services, as announced in the *Millimeter Wave Notice*. Because these new technologies and services are, in the nature of this evolving process, unproven, we also seek to maintain the maximum flexibility for implementation of alternatives to the anticipated dominant use, whether in the fixed or satellite services. In light of the declared purposes of the *Millimeter Wave Notice*, and the consideration of additional spectrum allocations for satellite services in other proceedings, the service rules will, however, be focussed on the development of fixed terrestrial and fixed satellite services generally, and the platform technology more specifically. The feasibility of providing for satellite services in these rules will be considered in the proceeding we initiate today. If the preclusive effects that petitioners are concerned about are realized, they will result from full consideration in that process of different approaches to service rules. The Commission's determination in the *Second Report and Order* of the likely dominant use does not have that effect.

IV. NOTICE OF PROPOSED RULEMAKING

51. In this Notice, we propose licensing and operating rules for the 47 GHz band, and we propose that licenses for this band be acquired through competitive bidding under the Commission's Part 1 competitive bidding rules. We also propose to license the 47 GHz band under Part 27 of the Commission's Rules, as modified to reflect the particular characteristics and circumstances of services offered through the use of spectrum in the 47 GHz band. We seek comment on how Government and non-Government licensees can effectively share the 47 GHz band. In addition, in a few instances, we propose that modifications to the Part 27 Rules be made applicable to the 2.3 GHz band. We also propose to modify Part 27 to clarify that the rules contained in Part 27 will apply to both the 2.3 GHz band and the 47 GHz band.

A. Service Rules in General

[83] *See, e.g.*, note 18, *supra*, and accompanying text.

52. The Commission decided in the *Second Report and Order* to make the 47 GHz band available for commercial use and to license the spectrum under a flexible framework that reflects the likely dominant use of that band, but that does not preclude other uses. The Commission also adopted a geographic service area licensing plan and a channeling plan that were consistent with the likely dominant use of the band. Specifically, the Commission divided the 47 GHz band into five pairs of 100 megahertz channels, separated by 500 megahertz.[84] The Commission found that this approach would accommodate the likely use of this band, and would foster competition and diversity of uses among licensees. The Commission also determined that the 500 megahertz separation between channel pairs would facilitate system design and reduce interference problems without affecting the use of multichannel operations that are accommodated in the pairs.[85]

53. In the *Millimeter Wave Notice*, the Commission also proposed a 10-year license term with a license renewal expectancy, the use of Rand McNally Major Trading Areas (MTAs) as the geographic service area, auction rules, and technical rules that would allow broad flexibility in choosing technologies and services while providing protection from interference. With regard to all other service rules for the 47 GHz band, the Commission proposed to use the same service rules that had been proposed for LMDS[86] and to modify Part 21 of the Commission's Rules[87] to accommodate the new services at 47 GHz.

54. After adoption of the *Millimeter Wave Notice*, there have been several developments that lead us to seek additional comment on the Commission's previous proposals, and to seek comment on new proposals in order to accommodate the changed circumstances produced by these developments. While the Commission has adopted service rules for LMDS in Part 101 of the Commission's Rules,[88] the Commission has also adopted a new set of service rules, in Part 27 of the Commission's Rules,[89] for wireless services in the 2.3 GHz band. These rules provide a licensing framework that may be more appropriate than the Part 101 rules in that they provide for

[84] *Second Report and Order*, 12 FCC Rcd at 10600 (para. 82); *see also* Appendix B, Proposed Section 27.5(c) of the Commission's Rules, 47 C.F.R. § 27.5(c).

[85] *Id.*

[86] *Millimeter Wave Notice*, 9 FCC Rcd at 7088 (para. 23).

[87] 47 C.F.R. Part 21.

[88] 47 C.F.R. Part 101. After the *Millimeter Wave Notice* was issued, the Commission created a new Part 101 of its Rules by combining certain sections of Part 21 of its Rules with all of what formally was Part 94. Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, WT Docket No. 94-148, Amendment of Part 21 of the Commission's Rules for the Domestic Public Fixed Radio Services, CC Docket No. 93-2, McCaw Cellular Communications, Inc. Petition for Rulemaking, RM-7861, Report and Order, 11 FCC Rcd 13449 (1996).

[89] 47 C.F.R. Part 27.

much greater flexibility in the types of services that can be provided and in the technical and operational rules that govern those services.[90]

55. Accordingly, we propose to modify Part 27 of the Commission's Rules to include the entire range of services that may be provided at 47 GHz. We also propose to modify Part 27 of the Commission's Rules to the extent necessary to reflect the particular characteristics and circumstances of services to be offered and to codify the specific provisions adopted by the Commission in the *Second Report and Order* in this proceeding.

56. We propose to permit in the 47 GHz band the operation of all services permitted in the United States Table of Allocations.[91] Such services include Fixed, Mobile, and Fixed-Satellite services, including BSS feeder links. Consistent with this approach, we note that licensees may be required to comply with rules contained in other Parts of the Commission's Rules. For example, while we anticipate that the predominant use of spectrum in the 47 GHz band will be for fixed service applications, to the extent a licensee provides a Commercial Mobile Radio Service (CMRS), such service will also be subject to the provisions of Part 20 of the Commission's Rules.[92] Part 20 applies to all CMRS providers, even though the stations may be licensed under other Parts of the Rules. With regard to the fixed-satellite service, for which the 47 GHz band only provides for the Earth-to-space path of a two-path (dual band) system, we propose that fixed-satellite services offered through the use of spectrum in the 47 GHz band shall be subject to applicable provisions of Part 25 of the Commission's Rules,[93] except to the extent these provisions conflict with the provisions of Part 27, in which case we propose that the latter rules shall govern. We seek comment as well on whether the dual band aspect of fixed-satellite service suggests other approaches to the application of service-specific Parts of the Commission's Rules. We also seek comment generally on any provisions in existing, service-specific rules that may require specific recognition or adjustment to comport with the supervening application of Part 27, as well as any provisions that may be necessary in Part 27 to fully describe the scope of covered services and technologies.

57. To the extent that entities interested in utilizing the 47 GHz band seek to implement services, or service configurations, that are not consistent with footnote S5.552A to the International Table of Frequency Allocations, as modified by WRC-97 (*e.g.*, non-BSS feederlink

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[90] *See* Amendment of the Commission's Rules To Establish Part 27, the Wireless Communications Service (WCS), GN Docket No. 96-228, Report and Order, 12 FCC Rcd 10785, 10883 (para. 203) (1997) (*Part 27 Report and Order*), adopting 47 C.F.R. Part 27.

[91] *See* Section 2.105 of the Commission's Rules, 47 C.F.R. § 2.106, column 5 (United States table, Non-Government).

[92] 47 C.F.R. Part 20; *see also* Appendix B, Proposed Section 27.3(f) of the Commission's Rules, 47 C.F.R. § 27.3(f).

[93] 47 C.F.R. Part 25.

Fixed-Satellite or traditional terrestrial Fixed services in the 47.2-47.5 and 47.9-48.2 GHz bands),[94] we ask those potential service providers to address the implications of any departure from the international allocations such services or service configurations may raise. Those implications include, but are not limited to, the technical implementation of the immediately affected service, and preserving the flexibility of the 47 GHz frequency band to accommodate a variety of new and innovative offerings. Service providers advocating such departures should describe the circumstances that in their view support such uses. We also note that such uses would not be assured protection from harmful interference by the International Radio Regulations.[95]

58. Additionally, as noted earlier, footnote S5.552A of the international Radio Regulations designates the 47.2-47.5 GHz and 47.9-48.2 GHz bands for use by high altitude platform stations (HAPS). While neither this footnote, nor any other provisions of the international Radio Regulations, precludes access to the entire 47.2-48.2 GHz band by HAPS stations, as envisioned by the Commission in its *Second Report and Order* in this proceeding, we seek comment on whether any difficulties are foreseen if HAPS systems are implemented in other countries with channeling schemes that differ from that adopted in our *Second Report and Order*.

59. Similarly, the potential use of the 47 GHz frequency band by different services or configurations, even when consistent with international and domestic allocations, may present significant technical issues. We seek comment on issues raised by, *e.g.*, licensee use of the 47 GHz band for both satellite and terrestrial uses (including stratospheric platforms), as well as specific proposals for technical rules to achieve the most effective utilization of this band by all of these technologies.

60. We note that Section 303(y) of the Communications Act grants the Commission "authority to allocate electromagnetic spectrum so as to provide flexibility of use," if the Commission makes certain findings.[96] While we are proposing flexible use for the 47 GHz 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

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[94] *See* note 12, *supra*.

[95] *See* note 13, *supra*.

[96] 47 U.S.C. § 303(y), as added by Section 3005 of the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997). This section states that the Commission must find that: (1) such an allocation would be in the public interest; (2) such use would not deter investment in communications services and systems, or technology development; and (3) such use would not result in harmful interference among users.

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 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

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[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).

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

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.

[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 choice for

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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.

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 Commission's

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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).

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.

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

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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).

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

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[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).

[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).

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.

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

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[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).

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 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

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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.

[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.

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 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

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[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.

[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.

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 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

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[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.

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

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

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.

- 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

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[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).

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 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

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[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).

[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).

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 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

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

[157] 47 U.S.C. § 309(j)(4)(C).

[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.

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.

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

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[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.

[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).

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 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.

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

[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).

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]

- 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

[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).

[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.

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 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

[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).

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

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

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 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.

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[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.

[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.

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 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.

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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.

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]

[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.

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

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]

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

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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.

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]

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

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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).

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.

conditions of their authorizations are normally considered to be non-interfering, and provides for Commission action, after notice and hearing, to require modifications to eliminate significant interference. In view of the variety of services that might be provided by Part 27 licensees, including services in the 47 GHz band, we solicit comment on whether we should retain this rule. We seek comment, for example, regarding whether interference protection can be guaranteed and whether this rule, if retained, should be changed to direct adjacent service area licensees to cooperate to eliminate or ameliorate interference. This alternative would require each licensee ultimately to assume responsibility for protecting its own receiving system from interference from transmitters in adjoining areas that meet our standards. We also seek comment on whether we should apply any changes with respect to Section 27.64 to the 2.3 GHz band.[209]

3. Out-of-Band and Spurious Emission Limits

130. Generally, different types of technical parameters would be used to limit out-of-band and spurious emissions to ensure interference protection of services outside the licensee's assigned spectrum, depending on whether the system involves fixed, mobile, or other communications. Because we are proposing to permit licensees in the 47 GHz band to use the spectrum for the various services listed in the U.S. Table of Allocations, it would appear we should develop technical operating parameters that can accommodate each type of communications, as the Commission did in adopting separate and different emissions limits in Section 27.53 of the Commission's Rules[210] for the 2.3 GHz band.[211] We tentatively conclude that, unlike the situation in the 2.3 GHz band, there is insufficient likelihood for adjacent channel interference from operations in the 47 GHz band that would require different rules for different categories of service.

131. We propose to require licensees in the 47 GHz band to attenuate the power below the transmitter power (P) by at least 43 + 10 log10(P) or 80 decibels, whichever is less, for any emission on all frequencies outside the licensee's authorized channel.[212] The Commission adopted this level in Section 27.53 for certain Part 27 operations, noting that this attenuation is commonly employed in other services and that it has been found to adequately prevent adjacent channel interference as a general matter.[213] We request comment on this proposal and any other emission limits that commenters believe are appropriate, including the possibility of establishing an absolute

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[209] *Cf.* 47 C.F.R. § 22.352, which governs predominantly mobile operations.

[210] 47 C.F.R. § 27.53.

[211] *See Part 27 Report and Order*, 12 FCC Rcd at 10854-57 (paras. 136-144). The Commission was required to adopt a more stringent level of attenuation in order to adequately protect satellite Digital Audio Radio Service reception, among other concerns, from WCS transmissions. *Id.* at 10855 (para. 138).

[212] *See* Appendix B, Proposed Section 27.53(c) of the Commission's Rules, 47 C.F.R. § 27.53(c).

[213] 47 C.F.R. § 27.53(a)(3); *see also Part 27 Report and Order*, 12 FCC Rcd at 10857 (para. 144), citing 47 C.F.R. §§ 22.359(iii), 22.917(e), 24.238.

power limit. We seek comment in particular on whether this proposed standard is appropriate in the context of the services likely to evolve in the 47 GHz band and, if not, what standard should be adopted. We also note that the specifications for standards will be especially important if power levels are adopted for each of the permitted services and these power levels are orders of magnitude different.

4. RF Safety

132. Section 27.52 of the Commission's Rules[214] subjects licensees and manufacturers to the RF radiation exposure requirements specified in Sections 1.1307(b), 2.1091, and 2.1093 of the Commission's Rules, which list the services and devices for which an environmental evaluation must be performed.[215] In adopting the rule, the Commission concluded that routine environmental evaluations for RF exposure are required by applicants desiring to use the following types of transmitters: (1) fixed operations, including base stations and radiolocation transmitters, when the effective radiated power (ERP) is greater than 1,000 watts; (2) all portable devices; and (3) mobile devices, if the ERP of the station, in its normal configuration, will be 1.5 watts or greater.[216]

133. With regard to RF safety requirements, we propose to treat services and devices in the 47 GHz band in a comparable manner to other services and devices that have similar operating characteristics. We tentatively conclude that the requirements in Section 27.52 that the Commission adopted for licensees in the 2.3 GHz band will apply to the same extent to licensees in the 47 GHz band. As the Commission has previously stated, the Commission is providing guidance on acceptable methods of evaluating compliance with the Commission's exposure limits in OET Bulletin 65, which has replaced OST Bulletin No. 65.[217]

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[214] 47 C.F.R. § 27.52.

[215] *See Part 27 Report and Order*, 12 FCC Rcd at 10861-62 (paras. 153-154), citing 47 C.F.R. §§ 1.1307(b), 2.1091, 2.1093. The RF radiation exposure limits are set forth in 47 C.F.R. §§ 1.1310, 2.1091, and 2.1093, as modified in Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, ET Docket No. 93-62, Report and Order, 11 FCC Rcd 15123 (1996); First Memorandum Opinion and Order, 11 FCC Rcd 17512 (1997); Second Memorandum Opinion and Order, 12 FCC Rcd 13494 (1997) (*RF Guidelines Second Reconsideration Order*).

[216] *Part 27 Report and Order*, 12 FCC Rcd at 10861 (para. 154 n.344), noting that 1,000 watts ERP equates to 1,640 watts EIRP. In the *RF Guidelines Second Reconsideration Order*, the Commission increased the exclusion threshold for mobile devices operating above 1.5 GHz from 1.5 watts to 3 watts EIRP. *RF Guidelines Second Reconsideration Order*, 12 FCC Rcd at 13514 (para. 51).

[217] *Part 27 Report and Order*, 12 FCC Rcd at 10862 (para. 154 n.346). OET Bulletin No. 65 (Edition 97-01) was issued on August 25, 1997. It is available for downloading at the FCC Web Site: www.fcc.gov/oet/rfsafety. Copies of OET Bulletin No. 65 also may be obtained by calling the FCC RF Safety Line at (202) 418-2464.

134. The Commission adopted the 1,000 watts ERP threshold for 2.3 GHz because of the flexibility with respect to use, power, location, and other factors, and determined that this power limit was appropriate to ensure compliance with the Commission's RF exposure standards for most situations.[218] Moreover, the Commission found the 1,000 watts ERP threshold consistent with its existing rules for transmitters and devices of comparable use and similar operating frequencies. For the same reasons, we propose to adopt the 1,000 watts ERP threshold for operations in 47 GHz band. Consistent with the modifications the Commission adopted for the 2.3 GHz band, we also propose to modify Sections 1.1307(b), 2.1091, and 2.1093 of the Commission's Rules to include services and devices applicable to the 47 GHz band. We invite comment on our proposals and any alternatives.

5. Stratospheric Services

135. The recently concluded WRC-97 considered changes to the international Radio Regulations and adopted several provisions dealing with stratospheric-based platforms.[219] The WRC adopted a definition for these stations, calling them High Altitude Platform Stations, which reads as follows: "A station located on an object at an altitude of 20 to 50 km and at a specified, fixed point relative to the Earth." We propose to adopt this same nomenclature and to place the new definition of these stations adopted at WRC-97 in Part 27 of the Commission's Rules.[220] For simplicity of discussion, however, we shall continue to refer to these stations as stratospheric platforms in this Notice.

136. The Sky Station proposal raises a number of technical issues that must be resolved. Sky Station requests that we amend certain service rules to accommodate its stratospheric fixed service and identifies several changes that it urges the Commission to adopt in this proceeding.[221] We seek comment generally on whether any particular regulatory provisions are necessary to accommodate high altitude stratospheric platforms, and to what extent such provisions may limit the use of the 47 GHz band by other technologies, such as satellites. We do not intend to prescribe rules that limit the range of potential uses of this band, except when technical considerations necessitate a specification that inherently accommodates one approach at the expense of another. In those circumstances, we expect to accommodate the anticipated use of high altitude platforms, but such determinations will be made in the context of specific rules. In particular, we seek comment on the following issues.

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[218] *Part 27 Report and Order*, 12 FCC Rcd at 10862 (para. 154 n.345), noting that, in a pending petition for reconsideration of the *RF Guidelines Report and Order*, the Commission was considering whether to revise the threshold for requiring routine evaluation of mobile devices above 1.5 GHz from 1.5 watts to 3 watts. This change was made in the *RF Guidelines Second Reconsideration Order*.

[219] *See* para. 10, *supra*.

[220] *See* Appendix B, Proposed Section 27.4 of the Commission's Rules, 47 C.F.R. § 27.4.

[221] Sky Station Further Comments to Petition for Rulemaking (Dec. 24, 1996) at 10-12.

a. Frequency Coordination

137. Sky Station has stated that co-channel frequency sharing of stratospheric platform systems with traditional fixed services is not possible in the same geographic area. With the Commission's decision to license stations in the 47 GHz band on a wide-area basis, the issue of sharing can be focussed on sharing at the boundaries of a service area, and for adjacent channel sharing in the same geographic area. In our earlier discussion regarding in-band interference control, we focused primarily on coordination procedures contained in Section 101.103 of the Commission's Rules, which relate to stations that are located on the surface of the earth. The introduction of stratospheric stations, however, adds an entirely new dimension to the coordination process.

138. We seek comment on how coordination should be effected between licensees of stratospheric stations licensed in one area with land-based stations of another licensee in an adjacent service area. Additionally, because stratospheric platform stations could be sharing the same frequency bands with stations of the Fixed-Satellite Service operating in the earth-to-space direction, we seek comment on appropriate procedures for coordinating these operations, including the imposition of any technical sharing criteria on either service.

b. Emission and Power Limitations

139. With respect to out-of-band emissions, we have tentatively proposed to require licensees to attenuate the power below the transmitter power (P) by at least 43 + 10 log10(P) or 80 decibels, whichever is less, for any emission on all frequencies outside the licensee's authorized channel, to facilitate adjacent channel sharing.[222] We request comment on whether these limits are appropriate for 47 GHz stations located on the surface of the earth, or whether an absolute power limit is preferable and, if so, what it should be. The situation with respect to stations located on stratospheric platforms is somewhat different. We request comment on the appropriate out-of-band emission limits to place on stations located on stratospheric platforms that would be necessary to protect the adjacent channel operations of both traditional fixed services and other stratospheric services, as well as other services that may be provided in this band. We seek comment on these issues.

c. Field Strength Limits

140. As discussed earlier, the Commission's rules for field strength limits at service area boundaries were derived from a model that assumed all stations to be located on the surface of the earth. These field strengths were initially derived to provide a minimal quality of service,

[222] *See* paras. 130-131, *supra*.

assuming a mobile service. Stratospheric platform stations, as envisioned by Sky Station, obviously differ from this previously adopted model and, therefore, may require altogether different considerations. We seek comment specifically on how services provided from stratospheric platforms can operate on a co-channel basis with adjacent service area licensees, especially if the adjacent service area licensee is providing traditional ground-based fixed services.

141. One consideration could be to place power-flux-density limits at the surface of the earth at service area boundaries. Comment is requested on whether this is a reasonable approach, and if so, what such a limit might be. In addition, because we are considering stations located on stratospheric platforms to be part of the terrestrial fixed service, we seek comment on how the rules the Commission adopted concerning "Quiet Zones" in Section 27.61 of the Commission's Rules[223] should be applied to such stations.[224]

d. Public Safety Issues

142. Sky Station's proposed communications service, as described in its application, would be provided by multi-ton platforms suspended by balloons floating in the stratosphere over major cities across the Nation. The possibility that these platforms, or parts of them, could fail may present a significant safety concern. Launching and retrieving the platforms may present dangers to aviation. Sky Station asserts that it is coordinating with Federal Aviation Administration (FAA) officials with respect to any necessary approvals, and that its platforms are designed with multiple redundant safety features that will eliminate the risk of injury or harm to airplanes or people on the ground. It also claims that any damage on Earth is no more likely to occur than from satellite launch and de-orbit operations.[225]

143. Motorola argues that the Sky Station proposal presents grave safety concerns raised by the size of the platforms, their untested technology, and the fact that the platforms would essentially be stationary over major cities.[226] It further claims that Sky Station has not dispelled these concerns or supported its assertions regarding the safety of the platforms with any quantitative analysis or computer simulation studies.[227]

144. Because stratospheric platforms are a novel technology, we do not presently have a basis or the experience on which to assess this issue. We request comment on the safety concerns that stratospheric platforms may raise, and how we should assure that the platforms are physically

[223] 47 C.F.R. § 27.61.

[224] *Part 27 Report and Order*, Appendix B, adopting 47 C.F.R. § 27.61.

[225] Sky Station Reply Comments to Petition (May 16, 1996) at 10-11.

[226] Motorola Comments to Petition (May 1, 1996) at 5.

[227] Motorola Reply Comments to Petition (May 16, 1996) at 3-5.

safe before granting permission for operation. For example, applicants could be required to report on measures to protect the public and demonstrate the safety of their operations. What regulatory bodies or private standard-setting organizations, if any, would be responsible for certifying the safety of these platforms? Should stratospheric platforms and other new technologies that present new safety risks be subject to strict liability and required to provide proof of adequate insurance to compensate for damage and injury? We request comment on these and other public safety issues raised by the Sky Station proposal and on possible solutions.

F. Competitive Bidding Procedures

1. Statutory Requirements

145. We tentatively conclude that, pursuant to the Balanced Budget Act of 1997, mutually exclusive applications for initial licenses for the 47 GHz band are required to be resolved through competitive bidding.[228] We base this on the fact that the 47 GHz band is not intended to be licensed for the following purposes: (1) public safety radio services licenses, including (a) private internal radio services used by State and local government entities; and (b) emergency road services provided by not-for-profit organizations; (2) digital television service licenses to be provided by terrestrial broadcast licensees to replace their analog service licenses; or (3) non-commercial educational broadcast stations or public broadcast stations. We seek comment on this view. Commenters should specifically address the requirements of the Balanced Budget Act of 1997.

2. Incorporation by Reference of Part 1 Standardized Auction Rules

146. In the *Part 1 Third Report and Order*, the Commission streamlined its auction procedures by adopting general competitive bidding rules applicable to all auctionable services[229] and, in the same proceeding, issued a *Second Further Notice of Proposed Rule Making* concerning designated entities and attribution rules, among other issues.[230] We propose to conduct the auction for initial licenses in the 47 GHz band in conformity with the general competitive bidding rules set forth in Part 1, subpart Q of the Commission's Rules, and substantially consistent with the bidding procedures that have been employed in previous Commission auctions. Specifically, we propose to employ the Part 1 rules governing designated entities, application issues, payment issues, competitive bidding design, procedure and timing issues, and anti-collusion. These rules would be subject to any modifications that the Commission adopts in relation to the *Second Further Notice of Proposed Rule Making*. We seek comment on

[228] *See* 47 U.S.C. §§ 309(j)(1), 309(j)(2), as amended by the Balanced Budget Act of 1997.

[229] *Part 1 Third Report and Order*, 13 FCC Rcd at 374-470 (paras. 4-169).

[230] *Id*. at 471-82 (paras. 170-195).

this proposal and on whether any of our Part 1 Rules would be inappropriate in an auction for this service.

3. Provisions for Designated Entities

a. Background

147. The Communications Act provides that, in developing competitive bidding procedures, the Commission shall consider various statutory objectives and consider several alternative methods for achieving them.[231] Specifically, the statute provides that, in establishing eligibility criteria and bidding methodologies, the Commission shall:[232]

> promot[e] economic opportunity and competition and ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women.

b. Small Business Definitions

148. In the *Competitive Bidding Second Memorandum Opinion and Order*, the Commission stated that it would define eligibility requirements for small businesses on a service-specific basis, taking into account the capital requirements and other characteristics of each particular service in establishing the appropriate threshold.[233] The *Part 1 Third Report and Order*, while it standardizes many auction rules, provides that the Commission will continue a service-by-service approach to defining small businesses. For the 47 GHz band, we propose to adopt the definitions the Commission adopted for broadband PCS for small and very small businesses,[234] which the Commission also adopted for 2.3 GHz and 39 GHz applicants.[235] We tentatively conclude that the capital requirements are likely to be similar to the capital requirements in those services. Specifically, we propose to define a small business as any firm with average annual gross revenues for the three preceding years not in excess of $40 million.

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[231] *See* 47 U.S.C. §§ 309(j)(3), 309(j)(4).

[232] 47 U.S.C. § 309(j)(3)(B).

[233] Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Second Memorandum Opinion and Order, 9 FCC Rcd 7245, 7269 (para. 145) (1994) (*Competitive Bidding Second Memorandum Opinion and Order*).

[234] Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Fifth Memorandum Opinion and Order, 10 FCC Rcd 403 (1994).

[235] 47 C.F.R. §§ 27.210(b)(1), 27.210(b)(2), 101.1209(b)(1)(i).

149. We observe that the capital costs of operational facilities in the 47 GHz band are likely to vary widely. Accordingly, we seek to adopt small business size standards that afford licensees the greatest flexibility. Thus, in addition to our proposal to adopt the general small business standard the Commission used in the case of broadband PCS, 2.3 GHz, and 39 GHz licenses, we propose to adopt the definition for very small businesses used for 39 GHz licenses and for the PCS F Block licenses: businesses with average annual gross revenues for the three preceding years not in excess of $15 million.

150. We seek comment on the use of these standards for services licensed in the 47 GHz band, with particular focus on the appropriate definitions of small and very small businesses as they relate to the size of the geographic area to be covered and the spectrum allocated to each license. In discussing these issues, commenters are requested to address the expected capital requirements for services in the 47 GHz band. Commenters are invited to use comparisons with other services for which the Commission has already established auction procedures as a basis for their comments regarding the appropriate definitions for small and very small businesses. We also seek comment on whether the proposed designated entity provisions, if adopted and applied to this service, would be sufficient to promote participation by businesses owned by minorities and by women, and participation by rural telephone companies. To the extent that commenters propose additional provisions to ensure participation by minority-owned and women-owned businesses, we also invite them to address how such provisions should be crafted to meet the relevant standards of judicial review.[236]

151. In all other respects, we propose to apply the competitive bidding procedures that the Commission adopted in the *Part 1 Third Report and Order*, subject to any modifications the Commission adopts in response to the *Second Further Notice of Proposed Rule Making*.[237]

V. PROCEDURAL MATTERS

A. Initial Regulatory Flexibility Analysis

152. As required by Section 603 of the Regulatory Flexibility Act of 1980 (RFA),[238] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the Notice.[239] We request written public comment on the analysis. In order to fulfill the mandate of the Contract with America Advancement Act of 1996 regarding the Final Regulatory Flexibility

[236] *See* Adarand Constructors v. Peña, 515 U.S. 200 (1995); United States v. Virginia, 116 S.Ct. 2264 (1996).

[237] *See Part 1 Third Report and Order*, 13 FCC Rcd at 386-409 (paras. 13-57).

[238] 5 U.S.C. § 603.

[239] *See* Appendix A.

Analysis, we ask a number of questions in our IRFA regarding the prevalence of small businesses in the affected industries.

153. Comments must be filed in accordance with the same filing deadlines as comments filed in this rulemaking proceeding, but they must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Office of Public Affairs, Reference Operations Division, shall send a copy of this Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with Section 603(a) of the RFA.

B. Paperwork Reduction Analysis

154. This Notice contains either a proposed or modified information collection. As part of our continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this Notice, as required by the Paperwork Reduction Act of 1995.[240] Public and agency comments are due at the same time as other comments on this Notice; OMB comments are due 60 days from the date of publication of this Notice in the Federal Register. Comments should address:

- Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility.

- The accuracy of the Commission's burden estimates.

- Ways to enhance the quality, utility, and clarity of the information collected.

- 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.

155. Written comments by the public on the proposed or modified information collections are due on September 21, 1998. Written comments must be submitted by the OMB on the proposed or modified information collections on or before 60 days after the date of publication in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, D.C. 20554, or via the Internet to jboley@fcc.gov, and to Timothy Fain, OMB Desk Officer, 10236 New Executive Office Building, 725 Seventeenth Street, N. W., Washington, D.C. 20503, or via the Internet to fain_t@al.eop.gov.

[240] Pub. L. No. 104-13.

C. Ex Parte Presentations

156. For purposes of this permit-but-disclose notice and comment rulemaking proceeding, members of the public are advised that *ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed under the Commission's Rules.[241]

D. Pleading Dates

157. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules,[242] interested parties may file comments on or before September 21, 1998, and reply comments on or before October 13, 1998. Comments and reply comments should be filed in WT Docket No. 98-136. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, interested parties must file an original and four copies of all comments, reply comments, and supporting comments. If interested parties want each Commissioner to receive a personal copy of their comments, they must file an original plus nine copies. Interested parties should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554.

158. Comments may also be filed using the Commission's Electronic Comment Filing System (ECFS).[243] Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet E-Mail. To obtain filing instructions for E-Mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, “get form <your E-Mail address.” A sample form and directions will be sent in reply.

159. Comments and reply comments will be available for public inspection during regular business hours at the FCC Reference Center, Room 239, at the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor: International Transcription Service, Inc. (ITS, Inc.), 1231 20th Street, N.W., Washington, D.C. 20036, (202) 857-3800.

E. Further Information

[241] *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206(a).

[242] 47 C.F.R. §§ 1.415, 1.419.

[243] *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998).

160. For further information concerning this rulemaking proceeding, contact Stan Wiggins, Eli Johnson, or Ed Jacobs at (202) 418-1310, Wireless Telecommunications Bureau, Federal Communications Commission, Washington, D.C. 20554.

VI. ORDERING CLAUSES

161. Accordingly, IT IS ORDERED that the Petition for Reconsideration of Amendment of Parts 2 and 15 of the Commission's Rules To Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, ET Docket No. 94-124, RM-8308, Second Report and Order, 12 FCC Rcd 10571 (1997), filed by Hughes Communications, Inc., Motorola Satellite Systems, Inc., TRW, Inc., and GE American Communications, Inc., IS DENIED.

162. IT IS FURTHER ORDERED that these actions ARE TAKEN pursuant to Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 301, 303, 308, 309(j), and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 301, 303, 308, 309(j), 310.

163. IT IS FURTHER ORDERED that NOTICE IS HEREBY GIVEN of the proposed regulatory changes described above and in Appendix B, and that comment is sought on these proposals.

164. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of the Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act of 1980, Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. §§ 601-612 (1980).

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

Appendix A

Initial Regulatory Flexibility Analysis

As required by Section 603 of the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (Notice), WT Docket No. 98-136. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice. The Commission will send a copy of the Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with the RFA.[2] In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

This rulemaking is being initiated to adopt certain service, licensing, and competitive bidding rules for the 47.2-48.2 GHz (47 GHz) band. In the *Second Report and Order* in this proceeding, the Commission opened this band for commercial use and determined to license this spectrum under a flexible framework that permits this band to be used for all services permitted under the U.S. Table of Allocations. In particular, in this Notice, we propose to license the 47 GHz band under Part 27 of the Commission's Rules, as modified to reflect the particular characteristics and circumstances of services offered through the use of spectrum in the 47 GHz band. We believe that this approach will encourage new and innovative services and technologies in this band without significantly limiting the range of potential uses for this spectrum.

Our objectives for the Notice are: (1) to accommodate the introduction of new uses of spectrum and the enhancement of existing uses; (2) encourage commercial development of equipment that can operate in frequency bands above 40 GHz; and (3) to facilitate the awarding of licenses to entities who value them the most. The Commission also seeks to ensure a regulatory plan for the 47 GHz band that will allow for the efficient licensing and use of the band, eliminate unnecessary regulatory burdens, enhance the competitive potential of the band, and provide a wide variety of radio services to the public.

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[1] 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAA). Title II of the CWAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[2] 5 U.S.C. § 603(a).

[3] *See id.*

B. Legal Basis for Proposed Rules

The proposed action is authorized under Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 301, 303, 308, 309(j), and 310 of the Communications Act of 1934, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 301, 303, 308, 309(j), 310.

C. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply

For the purposes of this Notice, the RFA defines a "small business" to be the same as a "small business concern" under the Small Business Act,[4] unless the Commission has developed one or more definitions that are appropriate to its activities.[5] Under the Small Business Act, a "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration (SBA).[6]

The proposals in the Notice affect applicants who wish to provide services in the 47 GHz band. Pursuant to 47 C.F.R. § 24.720(b), the Commission has defined "small entity" for Blocks C and F broadband PCS licensees as firms that had average gross revenues of less that $40 million in the three previous calendar years. This regulation defining "small entity" in the context of broadband PCS auctions has been approved by the SBA.[7] With respect to 47 GHz license applicants, we propose to use the small entity definition adopted in the Broadband PCS proceeding.

The Commission, however, has not yet determined or proposed how many licenses will be awarded, nor will it know how many licensees will be small businesses until the auction, if required, is held. Even after that, the Commission will not know how many licensees will partition their license areas or disaggregate their spectrum blocks, if partitioning and disaggregation are allowed. In view of our lack of knowledge of the entities which will seek 47 GHz licenses, we therefore assume that, for purposes of our evaluations and conclusions in the IRFA, all of the prospective licensees are small entities, as that term is defined by the SBA or our proposed definitions for the 47 GHz band.

We invite comment on this analysis.

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[4] 15 U.S.C. § 632.

[5] *See* 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 5 U.S.C. § 632).

[6] 15 U.S.C. § 632.

[7] *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5532, 5581-82 (para. 115) (1994).

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

Entities interested in acquiring spectrum in the 47 GHz band will be required to submit license applications and high bidders will be required to apply for their individual licenses. The proposals under consideration in this item also include requiring commercial licensees to make showings that they are incompliance with construction requirements, file applications for license renewals and make certain other filings as required by the Communications Act. We request comment on how these requirements can be modified to reduce the burden on small entities and still meet the objectives of the proceeding.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

We have reduced burdens wherever possible. To minimize any negative impact, however, we propose certain incentives for small entities which will redound to their benefit. These special provisions include partitioning and spectrum disaggregation. The regulatory burdens we have retained, such as filing applications on appropriate forms, are necessary in order to ensure that the public receives the benefits of innovative new services in a prompt and efficient manner. We will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing any significant economic impact on small entities. We seek comment on significant alternatives commenters believe we should adopt.

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules

None.

Appendix B

Proposed Rules

The Federal Communications Commission proposes that Part 27 of Title 47, Code of Federal Regulations, be amended as follows:

PART 27 — WIRELESS TELECOMMUNICATIONS SERVICE

1. The authority citation for Part 27 continues to read as follows:

Authority: 47 U.S.C. § 154, 301, 302, 303, 307, 309, and 332.

2. Section 27.1 is amended by revising paragraph (b) to read as follows:

§ 27.1 Basis and purpose.

* * * * *

(b) Purpose. This part states the conditions under which various frequency bands are made available and licensed for the provision of WCS.

* * * * *

3. Section 27.2 is revised to read as follows:

§ 27.2 Permissible communications.

(a) Subject to the rules contained herein, any services allocated in § 2.106 of part 2 of this title for non-Government use (column 5) in the frequency bands specified in § 27.5 may be provided by WCS licensees in those bands.

(b) In addition, satellite digital audio radio service (DARS) may be provided using the 2310-2320 and 2345-2360 MHz bands. Satellite DARS service shall be provided in manner consistent with part 25 of this chapter.

4. Section 27.3 is amended by redesignating paragraphs (f), (g), and (h) as (g), (h), and (i) and adding a new paragraph (f) to read as follows:

§ 27.3 Other applicable rule parts.

* * * * *

(f) Part 20. This part sets forth the requirements and conditions applicable to commercial mobile radio service providers.

5. Section 27.4 is amended by revising the definition of wireless communications services and by adding new definitions to read as follows:

§ 27.4 Terms and definitions.

* * * * *

Disaggregation. The assignment of discrete portions or "blocks" of spectrum licensed to a geographic licensee or qualifying entity.

* * * * *

High Altitude Platform Station. A station located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the Earth.

* * * * *

Partitioning. The assignment of geographic portions of a licensee's authorized service area along geopolitical or other boundaries.

* * * * *

Wireless Communications Service. A radiocommunication service that encompasses the allocated radio services in § 2.106 of part 2 designated for non-Government use (column 5) for the frequency band in which the station is licensed.

6. In Section 27.5, paragraph (c) is added to read as follows:

§ 27.5 Frequencies.

* * * * *

(c) Five paired channel blocks are available on a Regional Economic Area Grouping basis as follows:

Block V: 47.2-47.3 and 47.7-47.8 GHz
Block W: 47.3-47.4 and 47.8-47.9 GHz
Block X: 47.4-47.5 and 47.9-48.0 GHz
Block Y: 47.5-47.6 and 48.0-48.1 GHz

Block Z: 47.6-47.7 and 48.1-48.2 GHz

7. A new § 27.7 is added to read as follows:

§ 27.7 Permissible communications services.

(a) Authorization for stations will be granted to provide services on a common carrier basis or a non-common carrier basis or on both a common carrier and non-carrier basis in a single authorization.

(b) Stations may render any kind of communications service consistent with the Commission's rules and the regulatory status of the station to provide services on a common carrier or non-common carrier basis.

(c) An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status required to provide a specific communications service.

8. A new § 27.8 is proposed to be added to read as follows:

§ 27.8 Requesting regulatory status.

(a) Initial applications. An applicant will specify if it is requesting authorization to provide services on a common carrier basis, a non-common carrier basis, or on both a common carrier and non-common carrier basis.

(b) Amendment of pending applications.

(1) Any pending application may be amended to:

(i) Change the carrier status requested, or

(ii) Add to the pending request in order to obtain both common carrier and non-common carrier status in a single license.

(2) Amendments to change, or add to, the carrier status in a pending application are minor amendments filed under § 27.313.

(c) Modification of license.

(1) A licensee may modify a license to:

(i) Change the carrier status authorized, or

(ii) Add to the status authorized in order to obtain both common carrier and non-common carrier status in a single license.

(2) Applications to change, or add to, the carrier status in a license are modifications not requiring prior Commission authorization. The licensee must notify the Commission within 30 days of the change. If the change results in the discontinuance, reduction, or impairment of an existing service, the licensee is also governed by § 27.71 of this part.

9. Section 27.11 is amended by revising paragraph (b) to read as follows:

§ 27.11 Initial authorization.

* * * * *

(b) The initial WCS authorizations shall be granted in accordance with § 27.5 of this part.

(1) Authorizations for Blocks A and B will be based on Major Economic Areas (MEAs), as shown in section 27.6. Authorizations for Blocks C and D will be based on Regional Economic Area Groupings (REAGs), as shown in § 27.6 of this part.

(2) Authorizations for Blocks V, W, X, Y, and Z will be based on Regional Economic Area Groupings (REAGS), as shown in § 27.6 of this part.

(3) Applications for individual sites are not required and will not be accepted, except where required for environmental assessments, in accordance with § 27.59 of this part.

10. In § 27.14, new paragraphs (1) and (2) are added to paragraph (a) to read as follows:

§ 27.14 Construction requirements; Criteria for comparative renewal proceedings.

(a) * * *

(1) As examples of "safe-harbors," for a WCS 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 WCS 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. 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.

(2) In addition, 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, and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees. These safe-harbor examples are intended to provide WCS licensees a degree of certainty as to compliance with the substantial service requirement by the end of the initial license term. Licensees can meet this requirement in other ways, and licensees' showings will be reviewed on a case-by-case basis.

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11. Section 27.15 is amended by revising paragraph (b)(4) and adding new paragraph (e) to read as follows:

§ 27.15 Geographic partitioning and spectrum disaggregation.

* * * * *

(b) * * *

(4) Signal levels. For purposes of partitioning and disaggregation, WCS systems must be designed so as not to exceed the signal level specified in § 27.55 of this part at or beyond the licensee’s service area boundary, unless any affected adjacent service area licensee has agreed to a different signal level.

* * * * *

(e) Construction Requirements.

(1) Partitioning. Partial assignors and assignees for license partitioning have two options to meet construction requirements. Under the first option, the partitioner and partitionee would each certify that they will independently satisfy the substantial service requirement for their respective partitioned areas. If either licensee failed to meet its substantial service showing requirement, only the non-performing licensee's renewal application would be subject to dismissal. 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, however, only its renewal application would be subject to forfeiture at renewal.

(2) Disaggregation. Partial assignors and assignees for license disaggregation have two options to meet construction requirements. 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 and either party fails to do so, both licenses would be subject to forfeiture at renewal. 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 option, and the party responsible for meeting the construction requirement fails to do so, only the license of the nonperforming party would be subject to forfeiture at renewal.

12. Section 27.53 is amended by revising introductory paragraph (a), redesignating paragraph (c) as paragraph (d), and adding a new paragraph (c), to read as follows:

§ 27.53 Emission limits.

(a) For the band 2305-2360 MHz: The power of any emission outside the licensee's bands of operation shall be attenuated below the transmitter power (p) within the licensed bands of operation by the following amounts:

* * * * *

(c) For the 47.2-48.2 GHz band: The peak power of any emission outside the licensee's authorized bands shall be attenuated below the maximum peak spectral density by at least 43 + 10 log (p) dB or 80 dB, whichever is less.

(d) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

13. Section 27.55 is revised to read as follows:

§ 27.55 Field strength limits.

The predicted or measured median field strength at any location at or beyond the border of a WCS service area shall not exceed the following value unless the parties agree to a different field strength. This value applies to both the initially offered MEA and REAG service areas and to partitioned service areas.

For the 2305-2320 MHz and 2345-2360 MHz bands: 47 dBuV/m.

14. Section 27.57 is revised to read as follows:

§ 27.57 International coordination.

Terrestrial WCS operations in the border areas shall be subject to coordination with bordering countries and provide protection to non-U.S. operations in the appropriate frequency bands. In addition, satellite operations in WCS spectrum shall be subject to international satellite coordination procedures.

15. Section 27.58 is amended by revising introductory paragraph (a) to read as follows:

§ 27.58 Interference to MDS/ITFS receivers.

(a) WCS licensees operating in the 2.3 GHz band shall bear full financial obligation to remedy interference to MDS/ITFS block down converters if all of the following conditions are met:

* * * * *

16. A new Section 27.71 is added to read as follows:

§ 27.71 Discontinuance, reduction, or impairment of service

(a) If the service provided by a fixed common carrier 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 discontinuance, reduction, or impairment of service, including a statement when normal service is to be resumed. When normal service is resumed, the licensee must promptly notify the Commission.

(b) If a fixed common carrier licensee voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must obtain prior authorization as provided under § 63.71 of this chapter. An application will be granted within 30 days after filing if no objections were received.

(c) If a non-common carrier licensee voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must given written notice to the Commission within seven days.

(d) Notifications and requests identified in § 27.71(a)-(c) should be sent to: Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania, 17325.