

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of )
)
The 4.9 GHz Band Transferred from ) WT Docket No. 00-32
Federal Government Use )

NOTICE OF PROPOSED RULEMAKING

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By the Commission:

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## I. INTRODUCTION

1. In this Notice of Proposed Rulemaking (Notice), we propose to allocate and establish licensing and service rules for the band 4940-4990 MHz (4.9 GHz band) that has recently been transferred from Federal Government to private sector use as substitute spectrum for the band 4635-4685 MHz reclaimed for Federal Government use. We believe this band can support a variety of new and advanced wireless applications. We propose to allocate the 4.9 GHz band for fixed and mobile services, except aeronautical mobile service, on a primary basis and we seek comment on the geographic area and spectrum blocks that should be used to license this spectrum. We anticipate that this proposed action will benefit the public by permitting and encouraging the introduction of new services and the enhancement of existing services.

2. In addition, we propose to license the 4.9 GHz band under Part 27 of the Commission's Rules,<sup>1</sup> except to the extent that we propose to modify those rules in this Notice to reflect the particular characteristics of this spectrum and the services that will be permitted to operate in this band.<sup>2</sup> We also

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<sup>1</sup> 47 C.F.R. Part 27. Because it applies only to the band 4660-4685 MHz, we propose to delete Part 26 of the Commission's Rules containing the General Wireless Communications Service (GWCS) rules. 47 C.F.R. Part 26. Therefore, we will refer to GWCS only in describing prior rules for the band 4660-4685 MHz.

<sup>2</sup> Where we make specific proposals to amend the Part 27 Rules we include those proposals in Appendix B. Likewise, in those situations where we are not making specific proposals to amend rule sections, we are not including any proposed rule revisions for those sections in Appendix B.

propose that initial licenses for the 4.9 GHz band be acquired through competitive bidding under Part 1 of the Commission's Rules.<sup>3</sup> Furthermore, in a few instances, we propose to codify and conform certain rules for the 2.3 GHz band to provide for consistent regulation of Part 27 services.<sup>4</sup> Finally, we grant in part a Petition for Rulemaking filed by Global Frontiers, Inc. (Global) to revise, among other requests, the Commission's rules relating to this band.

## II. BACKGROUND

3. The Omnibus Budget Reconciliation Act of 1993<sup>5</sup> required that the Secretary of Commerce identify at least 200 megahertz of spectrum then allocated for use by Federal Government agencies to be transferred to private sector use. All of the 200 megahertz of spectrum recommended for reallocation was required to be located below 5 gigahertz, with at least 100 megahertz of this spectrum below 3 gigahertz.<sup>6</sup>

4. OBRA also required the Secretary of Commerce to issue within six months of enactment a Preliminary Report identifying bands of frequencies for potential reallocation and, furthermore, to issue within 18 months a Final Report recommending the spectrum for reallocation.<sup>7</sup> In its report making a preliminary identification of spectrum, the Department of Commerce was required to identify at least 50 megahertz of spectrum for immediate reallocation,<sup>8</sup> to reserve a significant portion of the 200 megahertz

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<sup>3</sup> 47 C.F.R. Part 1.

<sup>4</sup> The issues being raised in this proceeding with regard to the 2.3 GHz band have also been raised in another proceeding. Amendment to Parts 2, 15, and 97 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, 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 Global Stratospheric Telecommunications Service in the 47.2-47.5 GHz and 47.9-48.2 GHz Frequency Bands, RM-8784, Amendment to Part 27 of the Commission's Rules To Revise Rules for Services in the 2.3 GHz Band and To Include Licensing of Services In the 47 GHz Band, WT Docket No. 98-136, Memorandum Opinion and Order on Reconsideration and Notice of Proposed Rulemaking, 13 FCC Rcd 16947 (1998) (*47 GHz Notice*). Since we only received one comment filed jointly by two 2.3 GHz licensees in that proceeding, we are incorporating that comment into this proceeding and plan to address the 2.3 GHz issues in this proceeding.

<sup>5</sup> Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 312 (1993) (OBRA).

<sup>6</sup> See Federal Communications Commission Plan for Transferred Government Spectrum, Report to the President and the Congress, released Mar. 1999 (report to the President and Congress on the allocation and assignment of transferred spectrum).

<sup>7</sup> See *id.*, § 6001(a)(3), as codified at 47 U.S.C. § 923.

<sup>8</sup> At least one-half of the 50 megahertz identified for immediate reallocation had to be below the 3 GHz band and all of it had to be identified for exclusive non-Federal use.

of spectrum until after a 10-year period,<sup>9</sup> and to make the remaining spectrum available over the intervening 10 years.<sup>10</sup>

5. In accordance with the requirements of OBRA, on February 10, 1994, the Department of Commerce released its Preliminary Report.<sup>11</sup> The Preliminary Report identified 10 bands for reallocation, with three of these bands identified for immediate reallocation.<sup>12</sup> One of the three frequency bands identified in the Preliminary Report for immediate reallocation and private sector use was the band 4660-4685 MHz.<sup>13</sup> In February 1995, the Department of Commerce released its Final Report on spectrum for reallocation. In pertinent part, the Final Report stated that for the band 4660-4685 MHz reallocation had already been completed. The Final Report also identified the band 4635-4660 MHz, the band adjacent to the band 4660-4685 MHz, for transfer from Federal Government use to private sector use as of January 1, 1997.<sup>14</sup>

6. OBRA also required that the Commission allocate and propose regulations for the assignment of the immediately available 50 megahertz of spectrum no later than 18 months after enactment.<sup>15</sup> Thus, on February 7, 1995, the Commission adopted the *GWCS First Report and Order and Second Notice of Proposed Rulemaking*.<sup>16</sup> The Commission, among other decisions there, allocated the band 4660-4685 MHz on a primary basis to fixed and mobile services and proposed to designate this band for a new service entitled the General Wireless Communications Service (GWCS).

7. On August 2, 1995, the Commission released the *GWCS Second Report and Order* that established GWCS and adopted Part 26 of its rules setting out licensing and operating rules for the service in the band 4660-4685 MHz.<sup>17</sup> The Commission found that GWCS should accommodate a wide variety

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<sup>9</sup> 47 U.S.C. § 925 (b)(1)(B).

<sup>10</sup> OBRA, § 6001(a)(3), as codified at 47 U.S.C. § 923(e)(2)(A).

<sup>11</sup> Preliminary Spectrum Reallocation Report, U.S. Department of Commerce, NTIA Special Publication 94-27, Feb. 1994.

<sup>12</sup> *Id.* at Appendix A.

<sup>13</sup> By letter dated October 27, 1994, the President notified the Chairman of the Commission that Federal Government frequency assignments in this band, along with the other two bands, had been withdrawn and that the National Table of Frequency Allocations had been modified to reflect the reallocation of these bands for private sector use.

<sup>14</sup> See Spectrum Reallocation Final Report, U.S. Department of Commerce, NTIA Special Publication 95-32, Feb. 1995 (*Spectrum Reallocation Final Report*).

<sup>15</sup> OBRA, § 6001(a)(3), as codified at 47 U.S.C. § 925(a).

<sup>16</sup> Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, First Report and Order and Second Notice of Proposed Rulemaking, 10 FCC Rcd 4769 (1995) (*GWCS First Report and Order*) (*GWCS Second Notice of Proposed Rulemaking*).

<sup>17</sup> Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624 (1995) (*GWCS Second Report and Order*).

of potential fixed and mobile service uses, such as voice, video and data transmission, private microwave, broadcast auxiliary, and ground-to-air voice and video. The Commission also found that GWCS should facilitate the availability of frequencies for new technologies and services, encourage research and investment to invent, develop, and market new technologies, and spur their deployment to serve customers.<sup>18</sup>

8. On December 17, 1997, the Wireless Telecommunications Bureau announced that the auction for licenses in the band 4660-4685 MHz would commence on May 27, 1998.<sup>19</sup> In April 1998, however, the Bureau postponed the commencement of the auction<sup>20</sup> due to a demonstrated absence of demand for licenses in the band 4660-4685 MHz.<sup>21</sup> This lack of interest may have been due in part to the relatively small size of the spectrum block (*i.e.*, 25 megahertz) and to potential interference problems in the band.<sup>22</sup> The U.S. Navy uses the spectrum immediately above the 4685 MHz band, as well as the spectrum immediately below the 4635 MHz band, to operate its Cooperative Engagement Capability

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<sup>18</sup> *Id.* at 630-31 (para. 12). On December 20, 1996, the Commission issued a *Further Notice of Proposed Rulemaking* in which it proposed, among other actions, to revise the partitioning rules for the band 4660-4685 MHz and to establish disaggregation rules for this band. Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees, WT Docket No. 96-148, Implementation of Section 257 of the Communications Act – Elimination of Market Entry Barriers, GN Docket No. 96-113, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21831 (1996). Subsequently, on November 25, 1998, the Commission released a *Memorandum Opinion and Order* that addressed petitions for reconsideration of the *GWCS First Report and Order* and the *GWCS Second Report and Order*. Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Memorandum Opinion and Order, 13 FCC Rcd 23830 (1998).

<sup>19</sup> Public Notice, FCC Announces Auction Schedule for the General Wireless Communications Service, DA 97-2634, released Dec. 17, 1997; *see also* Public Notice, Auction Schedule for the General Wireless Communications Service Correction, DA 97-2662, released Dec. 19, 1997.

<sup>20</sup> Public Notice, Wireless Telecommunications Bureau Announces Postponement of General Wireless Communications Service (GWCS) Auction, Report No. AUC-98-19-B (Auction No. 19), DA 98-792, released Apr. 24, 1998.

<sup>21</sup> This absence of demand was evident when, in preparation to auction licenses for the band 4660-4685 MHz, the Bureau's Auctions Division received no responses when it sought public comment in January 1998 on a proposal for specific auction procedures and on methods for prescribing reserve prices or minimum opening bids. *See* Public Notice, Comment Sought on Reserve Prices or Minimum Opening Bids for the General Wireless Communications Service (GWCS) in the 4660-4685 MHz Band, Report No. AUC-98-19-A (Auction No. 19), DA 98-162, released Jan. 30, 1998 (*Reserve Prices PN*).

<sup>22</sup> *See* Letter to the Honorable W. J. (Billy) Tauzin, Chairman, Subcommittee on Telecommunications, Trade and Consumer Protection, Committee on Commerce, from William E. Kennard, Chairman, Federal Communications Commission, released Apr. 23, 1998 (*Kennard Letter*) (letter seeking guidance on whether to move forward with auctioning the band 4660-4685 MHz).

(CEC) system.<sup>23</sup> As a result, as detailed in a General Accounting Office Report to Congress, the Navy believed that commercial use of the band 4635-4685 MHz could adversely affect the CEC system.<sup>24</sup>

9. On March 30, 1999, pursuant to Section 6001(a)(3) of OBRA,<sup>25</sup> the Department of Commerce notified the Commission that the Federal Government was reclaiming the band 4635-4685 MHz and identifying, as substitute spectrum, the 4.9 GHz band.<sup>26</sup> As required by OBRA, the Department of Commerce submitted a Statement of Reasons in support of its decision. Among other justifications, the Statement of Reasons provides that: (1) the Department of Defense has concluded that the loss of the band 4635-4685 MHz would seriously jeopardize the national security interests of the United States by adversely impacting the operational capabilities of the Navy's CEC program; (2) reclaiming this spectrum and substituting the 4.9 GHz band will avert this operational impact to the Navy and preserve the resources already expended on the three billion dollar CEC program; (3) substitution of the 4.9 GHz spectrum will not disrupt nor displace any private sector entities; and (4) given that the band 4635-4685 MHz has not been auctioned and that no licenses for this band have been issued, there is no cost to the private sector associated with this decision. The Navy currently plans to use the band 4635-4685 MHz and adjacent bands for its CEC system.<sup>27</sup>

10. Partially in response to the Department of Commerce's decision to reclaim the band 4635-4685 MHz, the Offices of Engineering and Technology and Managing Director recently released a Memorandum Opinion and Order revising Part 2 of the Commission's Rules making non-substantive revisions to the Table of Frequency Allocations.<sup>28</sup> One of the changes made by this order was to return the band 4660-4685 MHz to the *status quo ante*, *i.e.*, to delete the allocation to non-Federal Government fixed and mobile services, while retaining the prior allocation on a primary basis to fixed-satellite service.<sup>29</sup> Because the band 4635-4660 MHz transferred from Federal Government to non-Federal

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<sup>23</sup> See *Reserve Prices PN* (Attachment A at 1).

<sup>24</sup> See Report to Congressional Committees, Defense Communications: Federal Frequency Spectrum Sale Could Impair Military Operations, General Accounting Office, GAO/NSIAD-97-131 (June 1997). The then Chairman of the Commission, Reed Hundt, responded to this report by letter on August 19, 1997. Letter to the Honorable Dan Burton, Chairman, Committee on Government Reform and Oversight, from Reed Hundt, Chairman, Federal Communications Commission, released Aug. 19, 1997. The National Telecommunications and Information Administration (NTIA) in turn provided the Commission with information from the Navy illustrating that CEC operations might cause harmful interference to GWCS licensees in certain regions. See *Reserve Prices PN* (Attachment A).

<sup>25</sup> OBRA, § 6001(a)(3), as codified at 47 U.S.C. §§ 924(b), 926.

<sup>26</sup> Letter to the Honorable William E. Kennard, Chairman, Federal Communications Commission, from Larry Irving, the Assistant Secretary for Communications, United States Department of Commerce, released Mar. 30, 1999 (*Reallocation Letter*).

<sup>27</sup> See paras. 84-89, *infra*.

<sup>28</sup> Amendment of Part 2 of the Commission's Rules to Make Non-Substantive Revisions to the Table of Frequency Allocations, Memorandum Opinion and Order, DA 99-2743, released Dec. 20, 1999 (65 FR 4636 (Jan. 31, 2000)) (*Part 2 MO&O*).

<sup>29</sup> *Id.* at para. 39.

Government use, had never been reallocated, the order did not need to make any changes to the allocations for that band.

11. On November 24, 1999, Global filed a Petition for Rulemaking requesting that the Commission: (1) designate the 4.9 GHz band for GWCS in lieu of the reclaimed band 4660-4685 MHz; (2) make the service more attractive to applicants that require broadband capability in order to serve the public; (3) speed the process of licensing applicants that are not mutually exclusive; and (4) allow mutually exclusive applicants to consult and negotiate solutions to their mutual exclusivity.<sup>30</sup> Global states that it is an Internet Service Provider (ISP) located in Portland, Oregon and is interested in offering its customers in the Portland area, and eventually customers in other areas, a simple, economical, and rapid means of downloading large files from the Internet. In order to achieve this objective, Global states that it has entered into an agreement with a French manufacturer to market and distribute in this country a terrestrial wireless transmission system that will permit consumers with a small horn-shaped antenna attached to their modems, pointed toward the ISP transmitter, to download files at speeds that are substantially in excess of those permitted by other competing technologies.<sup>31</sup> According to Global, the service, when authorized, will operate in the band 4940-4990 MHz utilizing a transmission bandwidth of 39 megahertz.

12. Global requests that the Commission make available for GWCS the entire 4.9 GHz band, that the band be broken down into five 10 megahertz wide blocks, and, apparently, that the band be licensed using Economic Areas (EAs).<sup>32</sup> Global also requests that the 15 megahertz aggregation limit contained in Section 26.101(a) be increased<sup>33</sup> and that GWCS licensees be able to partition their service territories to entities other than just rural telephone companies.<sup>34</sup> In addition, Global requests that the Commission clarify how applications are to be filed and that the Commission promptly process GWCS applications. Finally, Global requests that the Commission encourage the avoidance of mutual exclusivity through negotiated engineering solutions. We here grant Global's Petition to the extent indicated below.

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<sup>30</sup> Petition for Rule Making of Global Frontiers, Inc. To Revise Title 47, Chapter I, Parts 2 and 26, Code of Federal Regulations, in Order To Reallocate Frequencies to GWCS and Make Related Changes, filed Nov. 24, 1999 (*Global Frontiers Petition for Rulemaking*).

<sup>31</sup> Global has filed an application on FCC Form 442 seeking an experimental authorization to construct a facility in the Portland, Oregon area. Global Frontiers, Inc., Applicant for New or Modified Radio Station Under Part 5 of FCC Rules – Experimental Radio Service (Other Than Broadcast), File No. 0314-EX-PL-1999, filed Dec. 1, 1999.

<sup>32</sup> *Global Frontiers Petition for Rulemaking* at 10-11.

<sup>33</sup> 47 C.F.R. § 26.101(a).

<sup>34</sup> 47 C.F.R. § 26.209(a).

### III. DISCUSSION

#### A. Re-allocation of the Band 4940-4990 MHz

13. Internationally, the band 4940-4990 MHz is part of the band 4800-4990 MHz, which is allocated to the fixed and mobile services on a co-primary, worldwide basis, except in the sub-band 4950-4990 MHz, where the allocation to the mobile service is restricted by international footnote S5.442 to the mobile, except aeronautical mobile, service.<sup>35</sup> The band 4800-4990 MHz is also allocated to the radio astronomy service on a secondary,<sup>36</sup> worldwide basis.<sup>37</sup> Furthermore, in making assignments to stations of other services to which the sub-band 4950-4990 MHz is allocated, international footnote S5.149 states, in pertinent part, that “administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference” and that “emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service.”<sup>38</sup> Finally, the sub-band 4950-4990 MHz is allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary, worldwide basis.<sup>39</sup>

14. In the United States, the band 4940-4990 MHz (*i.e.*, the 4.9 GHz band) is Federal Government transfer spectrum that became available for exclusive non-Federal Government use in March 1999. The purpose of this instant proceeding is to develop the guidelines for non-Federal Government use of this spectrum. Currently, the band 4940-4990 MHz is part of a much larger Federal Government band that extends from 4400 MHz to 4990 MHz. The band 4800-4990 MHz is allocated to the Federal Government fixed and mobile services on a co-primary basis.<sup>40</sup> In its *Reallocation Letter*, NTIA states that the Federal Government uses the band 4940-4990 MHz for such fixed services as conventional point-to-point microwave, tactical radio relay, and high power tropospheric scatter systems, and such mobile services as control of remote piloted vehicles, video and data telemetry links, target drone control links, and fleet defense systems.<sup>41</sup> In addition, the Federal Government uses the band for aerostat systems, tethered at an altitude of approximately 15,000 feet above mean sea level, along the U.S. southern borders.

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<sup>35</sup> Table of Frequency Allocations, 47 C.F.R. § 2.106, international footnote S5.442. The aeronautical mobile service is defined as a mobile service between aeronautical stations and aircraft stations, or between aircraft stations, 47 C.F.R. § 2.1(c). Footnote S5.442 also limits the sub-band 4825-4835 MHz to the mobile, except aeronautical mobile, service.

<sup>36</sup> See 47 C.F.R. § 2.105(c)(2) (setting forth restrictions for secondary services).

<sup>37</sup> Per international footnote S5.443, in Argentina, Australia, and Canada, the allocation of the sub-bands 4825-4835 MHz and 4950-4990 MHz to the radio astronomy service is on a primary basis.

<sup>38</sup> Table of Frequency Allocations, 47 C.F.R. § 2.106, international footnote S5.149.

<sup>39</sup> Table of Frequency Allocations, 47 C.F.R. § 2.106, international footnote S5.339.

<sup>40</sup> See Table of Frequency Allocations, 47 C.F.R. § 2.106.

<sup>41</sup> *Reallocation Letter* at Annex D.

15. The sub-band 4950-4990 MHz is also allocated to the Federal Government and non-Federal Government space research (passive) and earth exploration-satellite (passive) services on a secondary basis.<sup>42</sup> Radio astronomy observations may be made in the sub-band 4950-4990 MHz at certain Federal Government/non-Federal Government observatories that are listed in footnote US257. In addition, international footnote S5.149 has previously been added to both the Federal Government and non-Federal Government Tables. Thus, the only authorized non-Federal Government use of the band 4940-4990 MHz is currently passive.

16. In initially establishing GWCS in August 1995, the Commission concluded that authorizing a wide variety of fixed and mobile services bounded only by international allocations comported with the Commission's statutory authority and served the public interest by fostering the provision and mix of services most desired by the public.<sup>43</sup> In keeping with this conclusion, we propose to allocate the band 4940-4990 MHz to the non-Federal Government fixed and mobile services, except aeronautical mobile service, on a co-primary basis. This allocation will permit the provision of a broad range of fixed and mobile services, except aeronautical mobile service. In keeping with this broad allocation, we propose to permit licensees to utilize this spectrum for any service permitted within any of the allocation categories of fixed and mobile, except aeronautical mobile uses, subject to international requirements and coordination. Finally, since the band 4940-4990 MHz is being transferred as a non-Federal Government exclusive band, we also propose to delete the Federal Government fixed and mobile service allocations from the band 4940-4990 MHz.

17. We note that the sub-band 4950-4990 MHz, together with the adjacent band 4990-5000 MHz, is extremely useful in studying the brightness distributions of both galactic and extra-galactic objects such as ionized hydrogen clouds and supernova remnants. We also note that radio astronomy is particularly vulnerable to potential interference from other services because it is a passive service that involves the reception of exceptionally weak cosmic radio waves emanating from a great distance from the Earth. Therefore, consistent with international footnote S5.442, we proposed above to prohibit aeronautical mobile service use of the sub-band 4950-4990 MHz.<sup>44</sup> Moreover, we proposed above to prohibit aeronautical mobile service use of the adjacent sub-band 4940-4950 MHz in order to provide additional protection for adjacent band radio astronomy observations. These proposals are consistent with footnote US257 and the Department of Commerce's request that we protect radio astronomy operations.<sup>45</sup>

18. The National Science Foundation (NSF) has requested that we update the list of radio astronomy observatories identified in footnote US257 to accurately reflect radio astronomy use of the sub-band 4950-4990 MHz. The NSF states that the observatories currently observing in the sub-band 4950-4990 MHz are listed in footnote US311 and recommends that we update the Table of Frequency Allocations by adding the sub-band 4950-4990 MHz to footnote US311 and by deleting footnote US257. Accordingly, we propose to delete footnote US257 and to revise footnote US311 to read as follows:

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<sup>42</sup> These allocations were made by adopting international footnote S5.339 domestically.

<sup>43</sup> See *GWCS Second Report and Order*, 11 FCC Rcd at 630-32 (paras. 12-15).

<sup>44</sup> See para. 16, *supra*.

<sup>45</sup> *Reallocation Letter*, Statement of Reasons at n. 5.

US311 Radio astronomy observations may be made in the bands 1350-1400 MHz and 4950-4990 MHz on an unprotected basis at certain radio astronomy observatories indicated below:

National Astronomy and Ionosphere Center, Arecibo, Puerto Rico	Rectangle between latitudes 17° 30' N and 19° 00' N and between longitudes 65° 10' W and 68° 00' W.	
National Radio Astronomy Observatory, Socorro, New Mexico	Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W.	
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W.	
National Radio Astronomy Observatory, Very Long Baseline Array Stations	80 kilometers (50 mile) radius centered on:	
	Latitude (North)	Longitude (West)
Pie Town, NM	34° 18'	108° 07'
Kitt Peak, AZ	31° 57'	111° 37'
Los Alamos, NM	35° 47'	106° 15'
Fort Davis, TX	30° 38'	103° 57'
North Liberty, IA	41° 46'	91° 34'
Brewster, WA	48° 08'	119° 41'
Owens Valley, CA	37° 14'	118° 17'
Saint Croix, VI	17° 46'	64° 35'
Mauna Kea, HI	19° 48'	155° 27'
Hancock, NH	42° 56'	71° 59'

Every practicable effort will be made to avoid the assignment of frequencies in the bands 1350-1400 MHz and 4950-4990 MHz to stations in the fixed and mobile services which could interfere with radio astronomy observations within the geographic areas given above. In addition, every practicable effort will be made to avoid assignment of frequencies in these bands to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

We request comment on these proposals.

19. In summary, we propose that licensees in the 4.9 GHz band will be authorized to provide any fixed, land mobile, or maritime mobile service, but not aeronautical mobile service. In proposing this

broad allocation, we seek to ensure that the spectrum is put to its best and most valued use and that the greatest benefit to the public is attained. We believe that a broad and general allocation is most likely to achieve this objective. Such an approach will allow flexible use of these bands so that licensees will be able to offer a wide range of services employing varying technologies. We therefore request comment on our proposal to allocate the band 4940-4990 MHz to the fixed and mobile services, except aeronautical mobile service, and to permit any fixed or non-aeronautical mobile service use in this spectrum, rather than specify this band for particular uses.<sup>46</sup>

20. Upon completion of this rulemaking, the Department of Commerce will require all current Federal Government assignments, except those for radio astronomy observatories, to be withdrawn or limited in the band 4940-4990 MHz. Federal Government licensees are expected to retune their equipment to operate in the remaining portion of the 4 GHz band (*i.e.*, 4400-4940 MHz).<sup>47</sup> Because the band 4940-4990 MHz is transferred from Federal Government to non-Federal Government use as a replacement for the band 4635-4685 MHz, which was transferred pursuant to the provisions of OBRA, the Department of Commerce concluded that the new non-Federal Government licensees will not be required to pay Federal Government agencies vacating the band for the marginal cost of their relocation, as is required in spectrum transferred pursuant to the Balanced Budget Act of 1997 (BBA-97),<sup>48</sup> according to the provisions of the Defense Authorization Act of 1998.<sup>49</sup>

21. We also tentatively conclude that allocating the band 4940-4990 MHz to the non-Federal Government fixed and mobile services, except aeronautical mobile service, is consistent with Section 303(y)(2) of the Communications Act (Act),<sup>50</sup> as amended by the BBA-97. We seek comment on this tentative conclusion. Section 303(y)(2) grants the Commission authority to allocate spectrum for flexible use if the Commission finds that such an allocation: (1) is in the public interest; (2) would not deter investment in communications services and systems, or technology development; and (3) would not result in harmful interference among users. We tentatively find that allocating the spectrum for fixed and mobile, except aeronautical mobile, use and making the spectrum available for commercial use under the Part 27 Rules is in the public interest because it will contribute to technological and service innovation, create new jobs for the American workforce, foster national economic growth, and enhance opportunities for all Americans to utilize, and realize the benefits of, the national telecommunications infrastructure. We seek comment on this tentative finding.

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<sup>46</sup> See Appendix B, Proposed Section 2.106 of the Commission's Rules, 47 C.F.R. § 2.106.

<sup>47</sup> The Departments of Justice, Treasury, and Energy have 35, 5, and 4 frequency assignments in the band 4940-4990 MHz, respectively. The Department of Commerce anticipates that these agencies will explore retuning as the most cost-effective option. *Reallocation Letter*, Statement of Reasons at n. 6.

<sup>48</sup> Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251.

<sup>49</sup> See Defense Authorization Act of 1998, Pub. L. No. 105-261 (1998) (amending 47 U.S.C. § 923(g)); see also para. 96, *infra*.

<sup>50</sup> 47 U.S.C. § 303(y)(2).

22. To satisfy the requirements of Section 303(y)(2)(B) of the Act, we seek comment on whether a flexible spectrum allocation in this band would deter investment in communications services and systems, or technology development.<sup>51</sup>

23. To the extent commenters believe such flexibility will deter investment, they should also suggest specific restrictions on how spectrum should be used by a licensee, and detailed analyses of the economic trade-offs between flexibility and investment that justify the recommended use restriction. We seek to develop a record to help quantify any trade-offs between flexibility and investment in technology and new services. Such a record will assist us in structuring these rules so as to avoid deterring investment in new technology and communications services. We also seek comment regarding the extent to which significant flexibility in service rules may encourage such investments.

24. Finally, we tentatively find that the technical rules that we are proposing in this Notice for the band 4940-4990 MHz satisfy the requirements of Section 303(y)(2)(C).<sup>52</sup> These rules provide licensees with a framework to provide a wide variety of services with a minimum of interference. As the Commission stated in the *GWCS Second Report and Order*, any interference issues that may arise among licensees can be satisfactorily resolved by general non-interference standards and technical rules.<sup>53</sup> We believe that this conclusion applies for licensees in the 4.9 GHz band. We seek comment on this tentative finding.

#### **B. Public Safety**

25. In response to the *GWCS Second Notice of Proposed Rulemaking*, the Association of Public-Safety Communications Officials-International, Inc. (APCO) filed comments proposing that the Commission should designate at least a portion of the band 4660-4685 MHz for public safety mobile and aeronautical video operations.<sup>54</sup> The Commission found, however, that the record did not provide a sound basis for concluding that any or all of the band 4660-4685 MHz should be assigned as APCO suggested.<sup>55</sup> In denying APCO's request, the Commission noted that the Commission and the National Telecommunications and Information Administration (NTIA) had recently formed a Public Safety Wireless Advisory Committee (PSWAC) to prepare a report on operational, technical, and spectrum requirements of Federal, State, and local public safety entities through the year 2010. On September 11, 1996, PSWAC submitted to the Commission and NTIA its Final Report on public safety wireless

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<sup>51</sup> 47 U.S.C. § 303(y)(2)(B).

<sup>52</sup> *Id.* § 303(y)(2)(C).

<sup>53</sup> *GWCS Second Report and Order*, 11 FCC Rcd at 633 (para. 18); *see e.g.*, Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, First Report and Order, FCC 00-5, released Jan. 7, 2000 (*746-764 and 776-794 MHz First Report and Order*) (establishing general non-interference standards and technical rules).

<sup>54</sup> *Id.* at 636 (para. 25).

<sup>55</sup> *Id.* at 637 (para. 27).

frequency and related requirements through the year 2010.<sup>56</sup> As part of this report, PSWAC recommended that “[t]he 4635-4685 MHz band should be allocated for Public Safety systems . . . .”<sup>57</sup> In support of its recommendation PSWAC stated that this spectrum was needed to ensure sufficient public safety spectrum allocations through the year 2010.

26. Recently, however, the Commission has acted pursuant to BBA-97<sup>58</sup> to allocate 24 megahertz of spectrum solely for public safety use. Specifically, the Commission allocated the band 764-776 MHz and the band 794-806 MHz on a primary basis to fixed and mobile services, and designated this spectrum solely for public safety use.<sup>59</sup> In addition, the Commission has adopted rules to govern licensing and operations for public safety in those bands.<sup>60</sup> Because of this recent public safety allocation, we do not propose designating the 4.9 GHz band, or any portion of the band, for public safety use. We tentatively conclude that the action taken by the Commission in the *Public Safety Reallocation Order* constitutes a significant commitment of spectrum to serve public safety needs into the next century, making it unnecessary to set aside spectrum in the 4.9 GHz band for public safety use.<sup>61</sup> We seek comment on this tentative conclusion.

### C. Application, Licensing, and Processing Rules

27. Except as discussed below, we propose that the 4.9 GHz band should be governed by Part 27 of the Commission's Rules.<sup>62</sup> When the Commission adopted Part 26 of its Rules<sup>63</sup> for the band 4660-4685 MHz, it sought to ensure that those rules would accommodate a wide variety of potential fixed and mobile service uses, such as voice, video and data transmission, private microwave, broadcast auxiliary, and ground-to-air voice and video.<sup>64</sup> We believe that the rules contained in Part 27 will preserve and

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<sup>56</sup> PSWAC, *Final Report of the Public Safety Wireless Advisory Committee to the Federal Communications Commission*, Reed E. Hundt, Chairman, and the National Telecommunications and Information Administration, Larry Irving, Assistant Secretary of Commerce for Communications and Information (Final Report)(1996).

<sup>57</sup> *Id.* at 22 (para. 2.2.2.5).

<sup>58</sup> See footnote 48.

<sup>59</sup> Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, Report and Order, 12 FCC Rcd 22953 (1998) (*Public Safety Reallocation Order*).

<sup>60</sup> The Development of Operational, Technical and Spectrum Requirements For Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements For Priority Access Service, WT Docket No. 96-86, First Report and Order and Third Notice of Proposed Rulemaking, 14 FCC Rcd 152 (1998).

<sup>61</sup> Our tentative conclusion would not prevent public safety agencies, however, from acquiring the spectrum through competitive bidding and using it in a manner consistent with our allocation.

<sup>62</sup> 47 C.F.R. Part 27.

<sup>63</sup> 47 C.F.R. Part 26.

<sup>64</sup> *GWCS Second Report and Order*, 11 FCC Rcd at 630 (para. 12).

enhance that flexibility. The Commission adopted Part 27 after the promulgation of Part 26, and, in doing so, updated its rules, eliminated unnecessary burdens, and provided for additional licensing flexibility than had been established in Part 26.<sup>65</sup> We tentatively conclude that potential 4.9 GHz licensees will benefit from these reduced burdens and additional flexibility and that, by making the 4.9 GHz rules more flexible, public demand for this spectrum will increase.

28. In keeping with our proposal to regulate the 4.9 GHz band under Part 27 of the Commission's Rules, we also propose to delete Part 26 of the Commission's Rules. With the return of the band 4660-4685 MHz to exclusive Federal Government use, Part 26 of the Commission's Rules serves no specific purpose. As part of our continuing effort to eliminate redundancy and to streamline our rules, we propose to delete Part 26. Because there are no Part 26 licensees, this proposal should not have any adverse impact. We seek comment on our tentative conclusion to delete Part 26 of the Commission's Rules.

29. As discussed above,<sup>66</sup> other than aeronautical mobile, we do not propose to restrict the types of fixed and mobile services that can be provided in the 4.9 GHz band. 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, 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.<sup>67</sup> Part 20 applies to all CMRS providers, even though the stations may be licensed under other Parts of the Rules. We 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. For instance, if a 4.9 GHz licensee provides a fixed service, we seek comment on whether there are any specific provisions in Part 101 of the Commission's Rules that the licensee should be subject to even though the licensee's stations will be licensed under Part 27.<sup>68</sup>

30. We also note that the 4.9 GHz service will be subject to the Universal Licensing System (ULS).<sup>69</sup> ULS is the Commission's new automated licensing system and integrated database for wireless services. ULS includes new consolidated applications forms, which will enable 4.9 GHz licensees and applicants to file applications electronically, thus increasing the speed and efficiency of the application

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<sup>65</sup> 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 (1997) (*Part 27 Report and Order*).

<sup>66</sup> See para. 16, *supra*.

<sup>67</sup> 47 C.F.R. Part 20; see also 47 C.F.R. § 27.3(g), as amended by 746-764 and 776-794 MHz *First Report and Order*.

<sup>68</sup> 47 C.F.R. Part 101.

<sup>69</sup> Biennial Regulatory Review -- Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, WT Docket No. 98-20, Amendment of the Amateur Service Rules to Authorize Visiting Foreign Amateur Operators to Operate Stations in the United States, WT Docket No. 96-188, RM-8677, Report and Order, 13 FCC Rcd 21027 (1998) (*ULS Report and Order*).

process. All 4.9 GHz licensees filing applications and other filings using FCC Forms 601 through 605 or associated schedules must make these filings electronically in accordance with the electronic filing instructions provided by ULS.<sup>70</sup> Use of ULS will permit Commission staff to process filings more efficiently and will enhance the availability of 4.9 GHz licensing information to the public.

#### 1. Regulatory Status

31. To fulfill its enforcement obligations and ensure compliance with the statutory requirements of Titles II and III of the Communications Act, the Commission has often required applicants to identify whether or not 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 Service (PMRS), or both. 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.<sup>71</sup> 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.<sup>72</sup> We propose to adopt the same procedure for licensing services in the 4.9 GHz band and to codify this procedure for the 2.3 GHz band.<sup>73</sup> 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 4.9 GHz band, this approach is likely to achieve efficiencies in the licensing and administrative process.

32. 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 regulatory status in a streamlined application process.<sup>74</sup> 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

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<sup>70</sup> 47 C.F.R. § 1.913(b).

<sup>71</sup> 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) (*LMDS Second Report and Order*) (*Fifth NPRM*); *aff'd*, Melcher v. FCC, 134 F.3d 1143 (D.C. Cir. 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*); Fourth Report and Order, 13 FCC Rcd 11655 (1998) (*LMDS Fourth Report and Order*); *see also* 47 C.F.R. § 101.1017.

<sup>72</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10846, 10848 (paras. 119, 122).

<sup>73</sup> *See* 47 C.F.R. § 27.10, as amend by 746-764 and 776-794 MHz *First Report and Order*.

<sup>74</sup> *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.

common carriage be present;<sup>75</sup> otherwise, the applicant must choose non-common carrier status.<sup>76</sup> The Commission advised potential applicants that, if they are unsure of the nature of their services and their classification as common carrier services, they may submit a petition with their applications, or at any time, requesting clarification and including service descriptions for that purpose.<sup>77</sup>

33. We propose that applicants and licensees with respect to services in the 4.9 GHz band also not be required to describe their proposed services, but be required to indicate a regulatory status based on any services they choose to provide. We also propose that if licensees change the service or services they offer, such that it would change their regulatory status, they must notify the Commission, although such change would not require prior Commission authorization.<sup>78</sup> We propose that licensees be required to 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.<sup>79</sup> In addition to making these procedures applicable to the 4.9 GHz band, we propose to codify these procedures for the 2.3 GHz band. In summary, under our proposal, a 4.9 GHz licensee would be authorized to provide a variety or combination of fixed, mobile (except aeronautical mobile), common carrier, and non-common carrier services. We seek comment on these proposals.

## 2. Eligibility; Spectrum Aggregation

34. Sections 27.12 and 27.302 of the Commission's Rules<sup>80</sup> impose no restrictions on eligibility, other than the foreign ownership restrictions set forth in Section 310 of the Communications Act,<sup>81</sup> and discussed below.<sup>82</sup> Consistent with these sections of the existing rules in Part 27, we propose

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<sup>75</sup> 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 . . .”).

<sup>76</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10790-91 (para. 12). The Commission 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.

<sup>77</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10848 (para. 121).

<sup>78</sup> See Sections 101.61(b)(3) and 101.61(c)(9) of the Commission's Rules, 47 C.F.R. §§ 101.61(b)(3), 101.61(c)(9). A change in regulatory status would require Commission prior authorization, however, if the change raised issues concerning the benchmark contained in Section 310(b)(4) of the Act. See footnote 94.

<sup>79</sup> See 47 C.F.R. § 27.66, as codified by 746-764 and 776-794 MHz *First Report and Order*; see also paras. 65-69, *infra*.

<sup>80</sup> 47 C.F.R. §§ 27.12, 27.302.

<sup>81</sup> 47 U.S.C. § 310.

<sup>82</sup> See paras. 38-40, *infra*.

that there will be no additional restrictions on eligibility for a license in the 4.9 GHz band.<sup>83</sup> We believe that opening the 4.9 GHz market to a wide range of applicants will permit and encourage entrepreneurial efforts to develop new technologies and services, while helping to ensure the highest and best use of this spectrum.<sup>84</sup> We seek comment on this tentative conclusion.

35. Part 27 of the Commission's Rules does not contain a limitation on the amount of spectrum a licensee may aggregate for each geographic area.<sup>85</sup> Consistent with the existing Part 27 Rules, we tentatively conclude that we will permit licensees in the 4.9 GHz band to obtain all of the 4.9 GHz licenses in a given geographic area. This tentative conclusion is consistent with the proposal put forth by Global.<sup>86</sup> We believe that the flexibility this approach permits will help licensees operating in the 4.9 GHz band to offer regional and national services, and will therefore create interest in the commercial development of the 4.9 GHz band. By permitting licensees to acquire all of the spectrum in a given geographic area, licensees will be able to offer a wider variety of services and this flexibility in turn should create more consumer interest in these services. The more consumer interest there is in a service, the more likely a licensee will offer this service on a regional or national basis.

36. In addition, we believe that a spectrum cap is not necessary to prevent a 4.9 GHz licensee from exercising market power. The Commission has made available ample spectrum in other bands for licensees to offer services that likely will compete with those offered by 4.9 GHz licensees.<sup>87</sup> We seek comment on our tentative conclusion not to impose a geographic area spectrum aggregation limit on 4.9 GHz licensees. Commenters that oppose our proposal should provide a rationale for whatever limit they deem appropriate, considering the varying bandwidth requirements of the different types of services that could be offered over the 4.9 GHz band. In addition, commenters who advocate a spectrum cap should discuss why the availability of spectrum in other bands does not eliminate the need for a spectrum cap.

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<sup>83</sup> For 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); 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, CC Docket No. 92-297, Sixth Notice of Proposed Rule Making, FCC 99-379, released Dec. 13, 1999.

<sup>84</sup> *See GWCS Second Report and Order*, 11 FCC Rcd at 649 (para. 60).

<sup>85</sup> *Cf.* 47 C.F.R. § 26.101(a) (for each geographic area, a licensee in the band 4660-4685 MHz may not aggregate more than 15 megahertz of spectrum).

<sup>86</sup> *Global Frontiers Petition for Rulemaking* at 11.

<sup>87</sup> *See Part 27 Report and Order; LMDS Second Report and Order; Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Band*, ET Docket No. 95-183, Memorandum Opinion and Order, released July 26, 1999; Amendments to Parts 1, 2 and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket No. 99-327, Notice of Proposed Rulemaking, at paras. 9-10, released Nov. 10, 1999 (*24 GHz NPRM*); *746-764 and 776-794 MHz First Report and Order*.

37. The current spectrum cap applicable to CMRS licensees covers broadband Personal Communications Service (PCS), cellular, and certain covered Specialized Mobile Radio (SMR) services, and, therefore, by its terms does not apply to licensees in the 4.9 GHz band.<sup>88</sup> We tentatively conclude not to extend this cap with respect to those licensees in the 4.9 GHz band who may be operating as CMRS providers. This approach is consistent with the decision the Commission reached in the *GWCS Second Report and Order*<sup>89</sup> and the *746-764 and 776-794 MHz First Report and Order*.<sup>90</sup> We seek comment on this tentative conclusion.

### 3. Foreign Ownership Restrictions

38. Sections 310(a) and 310(b) of the Communications Act<sup>91</sup> impose foreign ownership and citizenship requirements that restrict the issuance of licenses to certain applicants. Section 27.12 of the Commission's Rules, which implements Section 310 of the Act, would by its terms apply to applicants for licenses in the 4.9 GHz band.<sup>92</sup> An 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). An 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 310(b).

39. In the filing of an application under the Multipoint Distribution Service (MDS), satellite, and Local Multipoint Distribution Service (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.<sup>93</sup> We propose to follow the same approach in the case of applicants for the 4.9 GHz spectrum. Under our proposal to permit licensees

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<sup>88</sup> See 47 C.F.R. § 20.6(a); see also 1998 Biennial Regulatory Review Spectrum Aggregation Limits for Wireless Telecommunications Carriers, Cellular Telecommunications Industry Association's Petition for Forbearance From the 45 MHz CMRS Spectrum Cap, WT Docket 98-205, Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and Commercial Mobile Radio Service Spectrum Cap, WT Docket No. 96-59, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Report and Order, FCC 99-244, rel. Sept. 22, 1999; 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).

<sup>89</sup> *GWCS Second Report and Order*, 11 FCC Rcd at 645 (para. 50).

<sup>90</sup> *746-764 and 776-794 MHz First Report and Order* at paras. 51-53.

<sup>91</sup> 47 U.S.C. §§ 310(a), 310(b).

<sup>92</sup> 47 C.F.R. § 27.12; see also 47 C.F.R. § 27.302.

<sup>93</sup> 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).

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.<sup>94</sup> We seek comment on this proposal.

40. Like common carriers, non-common carriers would be required under our proposal to file the information whenever there are changes to their foreign ownership information. Under our proposed rules, however, we would not disqualify an applicant requesting authorization exclusively to provide non-common carrier services if its citizenship information reflects that it would be disqualified from a common carrier license or required to file a waiver. 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.<sup>95</sup> We request comment on this proposal.

#### 4. Geographic Areas and Spectrum Blocks

41. The band 4660-4685 MHz was to be licensed using Economic Areas (EAs) and EA-like areas.<sup>96</sup> There are 172 EAs, as defined by the U.S. Department of Commerce, and three additional Commission-defined EA-like areas.<sup>97</sup> In addition, for the band 4660-4685 MHz each EA and EA-like area was to be composed of five channel blocks,<sup>98</sup> and each channel block was to be 5 megahertz wide.<sup>99</sup> As a result, for the band 4660-4685 MHz, the Commission's rules provided for 875 licenses.

42. The Commission has licensed or proposed to license other spectrum using EAs, and EA-like areas. Specifically, the Commission has licensed the bands 37.0-38.6 GHz and 38.6-40.0 GHz using

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<sup>94</sup> We note, however, that to the extent that a licensee's decision to change its regulatory status raises issues with respect to that licensee exceeding the benchmark contained in Section 310(b)(4), the rules require the Commission's prior approval before the licensee can make this change. 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, 23940-41 (paras. 111-118) (1997).

<sup>95</sup> *Satellite Rules Report and Order*, 11 FCC Rcd at 21599 (para. 43); *LMDS Second Report and Order*, 12 FCC Rcd at 12651 (para. 243).

<sup>96</sup> 47 C.F.R. § 26.102.

<sup>97</sup> The three additional EA-like services areas were: (1) Guam and the Northern Mariana Islands (combined as one service area); (2) Puerto Rico and the United States Virgin Islands (combined as one service area); and (3) American Samoa.

<sup>98</sup> 47 C.F.R. § 26.103.

<sup>99</sup> The channel blocks and frequency bands for the band 4660-4685 MHz were to be: Block A: 4660-4665 MHz; Block B: 4665-4670 MHz; Block C: 4670-4675 MHz; Block D: 4675-4680 MHz; and Block E: 4680-4685 MHz.

EAs and has proposed to use EAs to license the 24 GHz band.<sup>100</sup> The Commission has also used larger geographic areas to license spectrum. For instance, the Commission licensed the 2.3 GHz band using the twelve Regional Economic Area Groupings (REAs) and the 52 Major Economic Areas (MEAs).<sup>101</sup> REAs and MEAs are also based on the 172 EAs, as modified by the Commission. More recently, the Commission has chosen to license the bands 746-764 MHz and 776-794 MHz using the even larger Economic Area Groupings (EAGs).<sup>102</sup> There are six EAGs and these are as well based on EAs.

43. We seek comment on the appropriate geographic area to use for licensing the 4.9 GHz band. We are mindful of the competing need to provide large enough service areas for those wishing to provide national services in the 4.9 GHz band and the need to chose a geographic licensing area that will permit the dissemination of 4.9 GHz licenses among the largest number of entities. We also wish to ensure service to rural areas<sup>103</sup> and to promote investment in and rapid deployment of new technologies and services.<sup>104</sup> If commenters support licensing based on service territories other than those discussed above, they should discuss why other types of service areas are more appropriate.

44. We note that whatever service area is used to license the 4.9 GHz band some of those service areas will be substantially affected by the radio astronomy geographic areas identified in revised footnote US311 to the U.S. Table of Frequency Allocations, and addressed in the section on allocation above.<sup>105</sup> In recognition of this issue, we seek comment on whether we should adjust the licensing areas to take into account the radio astronomy geographic areas. We also seek comment on whether we should license the Gulf of Mexico as part of larger service areas, as we did for the upper 700 MHz bands, or whether we should separately license a service area or service areas to cover the Gulf of Mexico.<sup>106</sup> Commenters who advocate a service area or areas to cover the Gulf of Mexico should discuss what boundaries should be used and whether a special interference protection criteria or performance requirements are necessary due to the unique radio propagation characteristic and antenna siting challenges that exist for Gulf licensees.

45. We also seek comment on the appropriate size spectrum block or blocks that should be used to license the 4.9 GHz band. In keeping with the Commission's original approach to the band 4660-4685 MHz, the 4.9 GHz band could be divided into ten 5 megahertz wide channel blocks. Global has

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<sup>100</sup> Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Band, ET Docket No. 95-183, Memorandum Opinion and Order, released July 26, 1999; *24 GHz NPRM*, at paras. 9-10.

<sup>101</sup> 47 C.F.R. § 27.6; *see also Part 27 Report and Order*, 12 FCC Rcd at 10814-16 (paras. 54-60). At the time of the 2.3 GHz auction, REAs were know as Regional Economic Area Groupings (REAGs).

<sup>102</sup> *746-764 and 776-794 MHz First Report and Order* at para. 56.

<sup>103</sup> *See* 47 U.S.C. § 309(j)(3)(A).

<sup>104</sup> *Id.* at 309(j)(4)(C)(iii).

<sup>105</sup> *See* para. 18, *supra*.

<sup>106</sup> *See 746-764 and 776-794 MHz First Report and Order*.

requested that the spectrum be divided into five 10 megahertz wide spectrum blocks.<sup>107</sup> Alternatively, we seek comment on whether this spectrum should be auctioned in two 25 MHz licenses. We seek comment on whether larger or smaller blocks would provide more options for services provided by licensees in the band. For instance, larger spectrum blocks might better facilitate provision of broadband services by licensees.<sup>108</sup> We also request comment on whether we should adopt a channelization plan that provides for different sized blocks. We further request comment on what impact a variety of blocks of different sizes would have on the diversity of the types of service offered to consumers, the adequacy of spectrum for flexible uses, the time necessary to implement the grants, and the ability of small business to provide niche services.

46. We request comment on whether the spectrum should be auctioned in paired spectrum blocks. For instance, under one approach, we could pair 5 MHz spectrum blocks into licenses of 10 MHz. Alternatively, we could pair two 12.5 MHz channel blocks into 25 MHz licenses. This licensing approach would provide each licensee with a separate transmit and receive channel and would, therefore, work with traditional wireless network architectures.

47. We also seek comment on whether we should license unpaired spectrum in the 4.9 GHz band. This alternative approach could save time and resources, and also could expedite the development and offering of services. While paired spectrum is ideal for such services as frequency division duplex (FDD) services, it is unnecessary for one-way or time division duplex (TDD) communications. By allocating spectrum in unpaired blocks, licensees planning to offer these types of services would not be required to acquire more spectrum than they need for their operations. We also seek comment on whether we should make any changes to our bidding rules to promote bidder flexibility.<sup>109</sup>

##### 5. License Term; Renewal Expectancy

48. Section 27.13 of the Commission's Rules<sup>110</sup> provides for authorizations for license terms not to exceed 10 years from the date of original issuance or renewal. Section 27.14 of the Commission's Rules<sup>111</sup> establishes a right to a renewal expectancy. We seek comment on whether to apply these license term and renewal expectancy provisions in the case of licensees in the 4.9 GHz band. We seek comment on whether 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 also seek comment on whether a license term longer than 10 years is appropriate to achieve these goals and better serve the public interest.<sup>112</sup> Commenters who favor a license term in excess of ten years should specify the appropriate license term and include a basis for the period proposed.

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<sup>107</sup> *Global Petition for Rulemaking* at 10.

<sup>108</sup> The Commission has granted or proposed spectrum in larger blocks for PCS, LMDS and 24 GHz services.

<sup>109</sup> See para. 95, *infra*.

<sup>110</sup> 47 C.F.R. § 27.13.

<sup>111</sup> 47 C.F.R. § 27.14.

<sup>112</sup> *Cf.* 47 U.S.C. § 307(c) (limiting broadcasting station licenses to eight years).

49. Consistent with Part 27, we propose that in the event that a license is partitioned or disaggregated, any partitionee or disaggregatee shall be authorized to hold its license for the remainder of the original licensee's 10-year term, and the partitionee or disaggregatee may obtain a renewal expectancy on the same basis as other licensees in the 4.9 GHz band.<sup>113</sup> We further propose that all licensees meeting the substantial service requirement will be deemed to have met this part of the renewal expectancy requirement regardless of which of the construction options the licensees have chosen. We tentatively conclude 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.<sup>114</sup> We seek comment on this tentative conclusion.

50. In addition, in order to claim a renewal expectancy, we seek comment on our tentative conclusion that a 4.9 GHz licensee involved in a comparative renewal proceeding<sup>115</sup> must include at a minimum the following showing required by Section 27.14(c) of the Commission's Rules:<sup>116</sup>

- 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.<sup>117</sup>

#### 6. Partitioning and Disaggregation of Licenses

51. On December 20, 1996, the Commission released a Further Notice of Proposed Rulemaking proposing, among other actions, to revise the partitioning rules for the band 4660-4685 MHz

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<sup>113</sup> 47 C.F.R. §§ 27.15(d), 27.324(b)(4).

<sup>114</sup> See *Part 27 Report and Order*, 12 FCC Rcd at 10840 (para. 106).

<sup>115</sup> A comparative renewal proceeding is one in which an existing licensee is challenged by another applicant. The existing licensee must demonstrate sufficient reason for the Commission to renew its license for an additional license term rather than issue the license to another applicant. 47 C.F.R. § 27.14(b); see also *Part 27 Report and Order*, 12 FCC Rcd at 10840, 10843-44 (paras. 106, 113).

<sup>116</sup> 47 C.F.R. § 27.14(c); see also *Part 27 Report and Order*, 12 FCC Rcd at 10840-41 (para. 107).

<sup>117</sup> 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 4.9 GHz band would be required to demonstrate an ability to serve roamers, as cellular licensees are required to do pursuant to the cited provisions of Part 22 of the Commission's Rules.

and to establish disaggregation rules for this band.<sup>118</sup> The proposals contained in that notice are superseded by the proposals below and that proceeding is terminated to the extent that it addressed partitioning and disaggregation rules for the band 4660-4685 MHz.

52. We hereby tentatively conclude to allow all 4.9 GHz licensees the flexibility to partition their service areas without any restriction, and to disaggregate their spectrum. This approach is consistent with Global's request<sup>119</sup> and we tentatively conclude that geographic partitioning and spectrum disaggregation can result in efficient spectrum use and 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.<sup>120</sup> We also tentatively conclude that our proposed approach will provide a means to overcome entry barriers through the creation of smaller licenses that require less capital, thereby facilitating greater participation by rural telephone companies and other smaller entities, many of which are owned by minorities and women.<sup>121</sup>

53. Section 27.15 of the Commission's Rules<sup>122</sup> permits licensees seeking approval for partitioning and disaggregation arrangements to request authorization from the Commission for partial assignment of a license, and provides that licensees may apply to partition their licensed geographic service areas or disaggregate their licensed spectrum at any time following the grant of their licenses.<sup>123</sup> In adopting the rule, the Commission decided to permit geographic partitioning of any service area defined by the partitioner and partitionee, to permit spectrum disaggregation without restriction on the amount of spectrum to be disaggregated, and to permit combined partitioning and disaggregation.<sup>124</sup> 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.<sup>125</sup> We request comment on our proposal that licensees in the 4.9 GHz band be eligible to the same extent to partition service areas and disaggregate spectrum. We also request comment on what limits, if any, should be placed on the ability of licensees to partition service areas and disaggregate spectrum.

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<sup>118</sup> Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees, WT Docket No. 96-148, Implementation of Section 257 of the Communications Act – Elimination of Market Entry Barriers, GN Docket No. 96-113, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21831 (1996); *see also* footnote 18.

<sup>119</sup> *Global Petition for Rulemaking* at 17-18.

<sup>120</sup> 47 U.S.C. § 309(j)(4)(C).

<sup>121</sup> *See Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21843-44 (paras. 13-17) (1996).

<sup>122</sup> 47 C.F.R. § 27.15.

<sup>123</sup> *See Part 27 Report and Order*, 12 FCC Rcd at 10836-39 (paras. 96-103), adopting 47 C.F.R. § 27.15.

<sup>124</sup> *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).

<sup>125</sup> *Id.* at 10836 (para. 97).

54. Section 27.15(b)(1) of the Commission's Rules provides that, in the case of partitioning, applicants and licensees must file FCC Form 603 and list the partitioned service area on a schedule to the application.<sup>126</sup> Section 27.15(c) contains provisions against unjust enrichment in order to address situations where a licensee under Part 27 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.<sup>127</sup> We propose to apply these provisions, as well as the remaining provisions governing partitioning and disaggregation in Section 27.15 of the Commission's Rules, to 4.9 GHz licensees.

55. We also seek comment on our proposal to apply 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 requirements, and to codify these methods for 2.3 GHz licensees.<sup>128</sup> Specifically, we propose to allow parties to partitioning agreements to choose between two options for satisfying the construction requirements.<sup>129</sup> Under the first option, the partitioner and partitionee would each certify that it will independently satisfy the substantial service requirement for its respective partitioned area. If a licensee fails to meet its substantial service requirement during the relevant license term, the non-performing licensee's authorization would be subject to cancellation at the end of the license term. Under the second option, the partitioner certifies that it has met or will meet the substantial service requirement for the entire market. If the partitioner fails to meet the substantial service standard during the relevant license term, however, only its license would be subject to cancellation at the end of the license term. The partitionee's license would not be affected by that failure.

56. Our proposal to offer two options to partitioning parties is based on our tentative conclusion that licensees in the 4.9 GHz band may be motivated to enter into partitioning arrangements for different reasons and under various circumstances. For example, a 4.9 GHz 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 more attractive for its purposes. Under another scenario, a 4.9 GHz licensee who 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 more attractive to the parties. In either instance, the public interest is advanced by permitting that flexibility, in terms of service areas and niche markets, conducive to optimizing the

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<sup>126</sup> 47 C.F.R. § 27.15(b)(1); *see also ULS Report and Order*, 13 FCC Rcd at 21078-83 (paras. 109-122).

<sup>127</sup> 47 C.F.R. § 27.15(c); *see also Part 27 Report and Order*, 12 FCC Rcd at 10838-39 (par. 101); 47 C.F.R. § 1.2111.

<sup>128</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10836 (para. 96) (concluding that the specific rules pertaining to partitioning and disaggregation in WT Docket No. 96-148 should apply to 2.3 GHz licensees); *see also Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, 21865 (paras. 42, 62-63); *LMDs Fourth Report and Order*, 13 FCC Rcd 11655, 11664-66 (paras. 16-19).

<sup>129</sup> *See* 47 C.F.R. § 27.15(e)(1), as amended by 746-764 and 776-794 MHz *First Report and Order*.

viability and value of the licenses partitioned, while precluding circumvention of our construction requirements.<sup>130</sup>

57. Finally, we propose to allow parties to disaggregation agreements to choose between two options for satisfying the construction requirements.<sup>131</sup> Under the first option, the disaggregator and disaggreatee 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 disaggreatee 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. As with partitioned licenses, providing these options preserves the public interest in developing the spectrum to the same degree as that required had the disaggregation (or partitioning) not occurred.<sup>132</sup>

#### 7. Performance Requirements

58. Section 27.14(a) of the Commission's Rules<sup>133</sup> requires 2.3 GHz licensees to provide "substantial service" in their service areas within 10 years of being licensed, and also states that a failure to meet this requirement will result in forfeiture of the license and the licensee's ineligibility to regain it. 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."<sup>134</sup> The *Part 27 Report and Order* provided several examples of safe harbors that would demonstrate substantial service.<sup>135</sup> Later, for LMDS, the Commission adopted the same build-out requirement and safe harbor provisions.<sup>136</sup> Recently, the Commission adopted these same safe harbor provisions for the bands 747-762 MHz and 777-792 MHz.<sup>137</sup> We propose that licensees in the 4.9 GHz band be governed by the same construction standards, including the same safe harbor provisions.

59. Our construction proposal includes the requirement that licensees submit an acceptable showing to the Commission at the end of the license period demonstrating that they have provided

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<sup>130</sup> See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857 (para. 43).

<sup>131</sup> See 47 C.F.R. § 27.15(e)(2), as amended by *746-764 and 776-794 MHz First Report and Order*.

<sup>132</sup> See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21864-65 (para. 61).

<sup>133</sup> 47 C.F.R. § 27.14(a).

<sup>134</sup> *Id.*; see also *Part 27 Report and Order*, 12 FCC Rcd at 10843-45 (paras. 111-115).

<sup>135</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10844 (para. 113).

<sup>136</sup> *LMDS Second Report and Order*, 12 FCC Rcd at 12660 (para. 270).

<sup>137</sup> *746-764 and 776-794 MHz First Report and Order*, at para. 70.

substantial service during the license term or are providing substantial service at the end of the term.<sup>138</sup> We propose to amend Part 27 to adopt the following safe harbors that would be applicable to 2.3 GHz licensees, as well as 4.9 GHz licensees:<sup>139</sup>

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

We recognize that the second safe harbor proposal for licensees who choose to offer mobile or point-to-multipoint services is different from our safe harbor proposal for licensees who choose to offer these kinds of services at 24 GHz.<sup>140</sup> Unlike at 24 GHz, however, there are no commercial licensees already offering services at 4.9 GHz. For 4.9 GHz licensees, therefore, there might be equipment availability issues that do not exist for 24 GHz licensees.

60. Our safe harbor proposals are intended to provide licensees an opportunity to achieve certainty as to compliance with the substantial service requirement during or 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.<sup>141</sup> In reviewing licensees' showings, we propose to 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,<sup>142</sup> and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees.<sup>143</sup>

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<sup>138</sup> *Part 27 Report and Order*, 12 FCC Rcd at 10843-44 (para. 113); *see also* 47 C.F.R. § 27.14(c).

<sup>139</sup> *See* Appendix B, Proposed Section 27.14(a)(1) of the Commission's Rules, 47 C.F.R. § 27.14(a)(1).

<sup>140</sup> *24 GHz NPRM*, at para. 339 (one-third coverage of the geographic area's population after five years and two-thirds after 10 years).

<sup>141</sup> *See* Appendix B, Proposed Section 27.14(a)(2) of the Commission's Rules, 47 C.F.R. § 27.14(a)(2).

<sup>142</sup> *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).

<sup>143</sup> *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).

Although licensees will have incentives to construct facilities to meet the service demands in their licensed service areas, we tentatively conclude that the minimum requirements we propose for the 4.9 GHz band will promote efficient use of the spectrum, encourage the provision of service to rural, remote, and insular areas, and prevent the warehousing of spectrum.

61. We tentatively conclude that these build-out provisions fulfill our obligations under Section 309(j)(4)(B) of the Act.<sup>144</sup> We also tentatively conclude 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 licensee that has shown by its willingness to pay market value its intention to put the spectrum to use. We also believe that, combined with the universal service policies of the 1996 Act,<sup>145</sup> service to rural areas will be promoted by our proposal to allow partitioning of service areas and disaggregation of spectrum and by our proposal, as outlined below,<sup>146</sup> to permit parties to disaggregation and partitioning agreements to negotiate between themselves the responsibility for meeting the applicable construction requirements.

62. Finally, under this proposed approach, 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 a reassessment is warranted because spectrum is being warehoused or is otherwise not being used despite demand. We will also reserve the right to impose additional, more stringent construction requirements on licenses in the future in the event that actual anticompetitive or universal service problems develop. We solicit comment on these proposals and views regarding performance requirements.

#### 8. Public Notice

63. Section 309(b) and Section 309(d) of the Communications Act require public notice for initial applications and substantial amendments thereto filed by radio common carriers.<sup>147</sup> 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 provisions also grant 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 BBA-97<sup>148</sup> permit the Commission to shorten notice periods in the auction context to 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.

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<sup>144</sup> *Id.* at 10844-45 (paras. 114-115), citing 47 U.S.C. § 309(j)(4)(B); *see also* Melcher v. FCC, 134 F.3d 1143 (D.C.Cir. 1998).

<sup>145</sup> Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (1996 Act).

<sup>146</sup> *See* paras. 55-57, *supra*.

<sup>147</sup> 47 U.S.C. §§ 309(b), 309(d).

<sup>148</sup> Pub. L. No. 105-33, 111 Stat. 251 (1997), § 3008 (Balanced Budget Act of 1997).

64. In the *Part 1 Third Report and Order*<sup>149</sup> the Commission exercised this statutory authority, and amended Section 1.2108(b) and Section 1.2108(c) of the Commission's Rules<sup>150</sup> 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 4.9 GHz band will be auctionable services, so that the seven-day public notice period is applicable.<sup>151</sup> We therefore seek comment on our tentative conclusion that the seven-day public notice period is applicable for applicants for spectrum in the 4.9 GHz band seeking to provide common carrier or non-common carrier services. We note, however, that in the *Part 1 Second Further Notice* the Commission has sought comment regarding whether longer periods should be applicable for some services.<sup>152</sup>

#### D. Operating Rules

##### 1. General Common Carrier Obligations; Forbearance

65. 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,<sup>153</sup> there are a number of operational requirements that apply to common carriers, including the filing of tariffs, maintaining of records, liabilities, and discontinuance of service.<sup>154</sup> While Section 332(c)(1)(A) of the Communications Act mandates common carrier treatment for CMRS, this same Section provides that the Commission may specify by regulation that certain of the Title II provisions setting forth such requirements for common carriers will be inapplicable to CMRS.<sup>155</sup> In the *CMRS Second Report and Order*, the Commission, pursuant to Section 332(c)(1)(A), promulgated Section 20.15 of its Rules, specifying those Title II requirements that would apply to CMRS, and those

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<sup>149</sup> 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 Notice*).

<sup>150</sup> 47 C.F.R. §§ 1.2108(b), 1.2108(c).

<sup>151</sup> See para. 94, *infra*.

<sup>152</sup> *Part 1 Second Further Notice*, 13 FCC Rcd at 431 (para. 98).

<sup>153</sup> See paras. 38-40, 63-64, *supra*.

<sup>154</sup> The Commission has recently eliminated for all common carriers, including wireless common carriers, the obligations that were imposed by Part 41 of the Commission's Rules concerning the issuance of franks for interstate and foreign telegraph and telephone service. The Commission also eliminated the recordkeeping requirement of carriers who issue reports of positions of ships at sea. 1998 Biennial Regulatory Review -- Elimination of Part 41 Telegraph and Telephone Franks, CC Docket No. 98-119, Report and Order, 14 FCC Rcd 2379 (1999).

<sup>155</sup> 47 U.S.C. § 332(c)(1)(A); 47 C.F.R. § 20.15. In order to prescribe such regulations, the Commission must make a three-part determination that the exemption is warranted. 47 U.S.C. § 332(c)(1)(A)(i)-(iii).

that would not.<sup>156</sup> Common carriers that are providing mobile service under the Commission's rules applicable to services in the 4.9 GHz band would be classified as CMRS, and therefore these Section 20.15 requirements and exemptions would apply to such 4.9 GHz licensees. Under the exemptions for CMRS providers specified in Section 20.15, CMRS providers (including those who would operate in the 4.9 GHz band) 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.<sup>157</sup>

66. While common carriers that offer fixed services in the 4.9 GHz band would not be exempt from those specific provisions pursuant to Section 20.15, they are exempt, like all common carriers, from having to seek authority for interlocking directorates.<sup>158</sup> Furthermore, the Commission has forbore from enforcing certain requirements on nondominant common carriers that would apply to wireless nondominant fixed common carriers using this spectrum. For instance, the Commission has granted permissive detariffing for provision of interstate exchange access services by providers other than the incumbent local exchange carrier.<sup>159</sup> We have also recently amended Section 63.71 of the Commission's Rules to provide for the automatic grant of a nondominant carrier's application for discontinuance after 31 days.<sup>160</sup>

67. The 1996 Act provides the Commission with the authority to forbear from Title II requirements.<sup>161</sup> The Commission issued a Notice of Proposed Rulemaking seeking comment regarding forbearance from applying any regulation or provision of the Communications Act to wireless telecommunications carriers licensed by the Commission.<sup>162</sup> This proceeding covers regulations and

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<sup>156</sup> 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) (1994) (*CMRS Second Report and Order*), recon. pending.

<sup>157</sup> *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).

<sup>158</sup> 1998 Biennial Regulatory Review – Repeal of Part 62 the Commission's Rules, CC Docket No. 98-195, Report and Order, FCC 99-163, released July 16, 1999.

<sup>159</sup> Hyperion Telecommunications, Inc. Petition Requesting Forbearance, CCB/CPD No. 96-3, Time Warner Communications Petition for Forbearance, CCB/CPD No. 96-7, Complete Detariffing for Competitive Access Providers and Competitive Local Exchange Carriers, CC Docket No. 97-146, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 12 FCC Rcd 8596 (1997). In the Notice of Proposed Rulemaking, the Commission proposed to forbear further and establish complete detariffing for all non incumbent local exchange providers of interstate exchange access services.

<sup>160</sup> Implementation of Section 402(B)(2)(A) of the Telecommunications Act of 1996, Petition for Forbearance of the Independent Telephone & Telecommunications Alliance, CC Docket No. 71.11, AAD File No. 98-43, Report and Order, FCC 99-104, released June 30, 1999.

<sup>161</sup> 47 U.S.C. § 160, as added by the 1996 Act.

<sup>162</sup> 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

provisions of the Communications Act that affect wireless common carriers offering fixed services. Decisions we take in that proceeding would accordingly apply to common carriers offering fixed services under Part 27 of the Commission's Rules, including 4.9 GHz licensees and 2.3 GHz licensees.<sup>163</sup>

68. We seek comment in this proceeding on whether we should exercise our authority to forbear from enforcing the same Title II requirements that the Commission has determined not to apply to CMRS licensees for 4.9 GHz and 2.3 GHz licensees that provide common carrier fixed services.<sup>164</sup> The statute requires that, before forbearing from applying any section of Title II, the Commission must find that each of the following applies:

- (1) Enforcement of such regulation or provision is not necessary in order to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;
- (2) Enforcement of such regulation or provision is not necessary for the protection of consumers; and
- (3) Forbearance from applying such provision or regulation is consistent with the public interest.

In applying the last criteria, 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.

69. We seek comment on application of each of these three criteria in the context of fixed services that may be offered in the 4.9 GHz band and in the context of fixed 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 criteria, we seek comment on the appropriate market that would apply to fixed, common carrier licensees in the 4.9 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.

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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, 13 FCC Rcd. 16857 (1998), *recon. denied.*, FCC 99-250, (released Sept. 27, 1999), *additional recon. pending.*

<sup>163</sup> See also *24 GHz NPRM*, at para. 35 (seeking comment on whether the Commission should forbear from applying certain obligations on common carrier licensees in the 24 GHz band).

<sup>164</sup> 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.

## 2. Equal Employment Opportunity

70. Part 27 does not include an explicit Equal Employment Opportunity (EEO) provision. Nor does Part 24.<sup>165</sup> We note that there are specific EEO provisions for fixed service providers in Parts 21 and 101, including both common carrier and non-common carrier LMDS licensees;<sup>166</sup> and for common carrier mobile service providers in Parts 22 and 90 of the Commission's Rules, though these latter provisions do not apply to PMRS providers because they are not common carriers.<sup>167</sup>

71. We seek comment regarding whether to include an EEO provision in the Commission's rules applicable to services in the 4.9 GHz band and, if so, which of the Commission's EEO rules we should adopt. Commenters should address the advisability of having different EEO requirements depending on the service a licensee provides. Commenters supporting the adoption of EEO requirements should address what statutory authority should be invoked to support these requirements and how these rules should be tailored to withstand judicial review.<sup>168</sup> We also solicit comment on whether the Commission's EEO rules should apply to licensees at 2.3 GHz.

### E. Technical Rules

72. The application of general provisions of Part 27 would include technical standards relating to power limits,<sup>169</sup> equipment authorization,<sup>170</sup> Radiofrequency (RF) safety standards,<sup>171</sup> emission limits,<sup>172</sup> frequency stability,<sup>173</sup> antenna structures and air navigation safety,<sup>174</sup> international coordination,<sup>175</sup> and disturbance of AM broadcast station antenna patterns.<sup>176</sup> In addition, other technical

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<sup>165</sup> 47 C.F.R. Part 24.

<sup>166</sup> See, e.g., 47 C.F.R. § 101.311.

<sup>167</sup> 47 C.F.R. §§ 22.321, 90.168.

<sup>168</sup> See *Lutheran Church-Missouri Synod v. FCC*, 141 F.3d 344 (D.C. Cir. 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), *reh'g denied*, 154 F.3d 487 (D.C. Cir. 1998).

<sup>169</sup> 47 C.F.R. § 27.50. The same transmission limits currently in place for the 2.3 GHz band would be used for the 4.9 GHz band.

<sup>170</sup> 47 C.F.R. § 27.51.

<sup>171</sup> 47 C.F.R. § 27.52.

<sup>172</sup> 47 C.F.R. § 27.53.

<sup>173</sup> 47 C.F.R. § 27.54.

<sup>174</sup> 47 C.F.R. § 27.56.

<sup>175</sup> 47 C.F.R. § 27.57.

standards contained in other sections of the Commission's rules would apply to 4.9 GHz licensees. These standards would include, among others, Part 17 (antenna registration),<sup>177</sup> Section 1.924 (quiet zones),<sup>178</sup> and 1.1307 (environmental requirements).<sup>179</sup> We tentatively conclude that all of these technical rules and the technical rules discussed below would apply to all 4.9 GHz licensees, regardless of the actual service provided or technology used, including those licensees who acquire licenses through partitioning of service areas or disaggregation of spectrum. We seek comment on these proposals.

#### 1. In-Band Interference Control

73. Section 27.55 of the Commission's Rules provides that the field strength at any location on the border of a 2.3 GHz licensee's service area shall not exceed 47 dBuV/m unless licensees operating in adjacent areas agree to a higher field strength along their mutual borders.<sup>180</sup> In addition to Part 27, we note that the Commission has permitted flexibility in services and technologies in other frequency bands, such as cellular service and PCS. In these cases, as with Part 27 services, 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 resolve interference problems on their own before coming to the Commission.

74. Because development of services and technologies that will use the 4.9 GHz band is just beginning, we do not have reliable information at this time regarding 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.

75. We also note that the Commission has recently concluded two rulemaking proceedings concerning fixed services at 28 GHz and 39 GHz.<sup>181</sup> 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<sup>182</sup> when they construct new facilities or modify existing facilities within a certain distance of the edge 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,

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<sup>176</sup> 47 C.F.R. § 27.63.

<sup>177</sup> 47 C.F.R. Part 17.

<sup>178</sup> 47 C.F.R. § 1.924.

<sup>179</sup> 47 C.F.R. § 1.1307.

<sup>180</sup> 47 C.F.R. § 27.55.

<sup>181</sup> See *LMDS Second Report and Order*; *39 GHz Report and Order*.

<sup>182</sup> 47 C.F.R. § 101.103.

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.<sup>183</sup>

76. The situation for licensees in the 4.9 GHz band differs somewhat from both of these situations. Under our proposed rules, 4.9 GHz licensees will have the flexibility to provide mobile, except aeronautical mobile, and fixed services. In this respect they have operational flexibility similar to 2.3 GHz licensees, who are subject to a field strength limit at the service area boundary. On the other hand, the principal use for the 4.9 GHz band might be for fixed services, as in the 28 GHz and 39 GHz bands, which are subject to a general coordination procedure.

77. 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 4.9 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 field strength limit, some degree of coordination and joint planning between bordering licensees appears likely to be needed to ensure efficient spectrum use on each side of the boundary.<sup>184</sup>

78. Parties are therefore asked to provide their analyses of the advantages and disadvantages of both approaches or, possibly, other approaches that combine the elements of both a boundary field strength limit and a coordination requirement. Comments should address the advantages of different approaches in controlling interference across geographic boundaries in the 4.9 GHz band, the kinds of incentives each may create for undesirable strategic or anti-competitive behavior, and the effect on licensee costs.

79. If we do adopt a general coordination approach, we tentatively conclude that such coordination would be required with co-channel 4.9 GHz licensees in adjacent geographic service areas and with adjacent channel 4.9 GHz licensees in adjacent geographic service areas, as well as the same or overlapping area. We propose to have each licensee coordinate with licensees in other relevant areas and develop agreements. We 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 licensees' service area boundary. Instead of specifying a fixed distance, we propose that licensees coordinate their facilities whenever their facilities have line-of-sight into co-channel and adjacent channel licensee facilities.<sup>185</sup> Under our proposal, both types of coordination must be successfully completed before operation is permitted. In the event that there is no 4.9 GHz licensee immediately available in an adjacent, same or overlapping area, the licensee must be prepared to coordinate its stations in the future in order to accommodate other

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<sup>183</sup> *39 GHz Report and Order*, 12 FCC Rcd at 18633 (para. 68).

<sup>184</sup> *See 47 GHz Notice*, 13 FCC Rcd at 16994-97 (paras. 119-129).

<sup>185</sup> At a minimum, stations whose radio horizon overlaps adjacent areas should contact the relevant licensees regarding coordination of facilities.

licensees to ensure cooperative and effective use of the spectrum in each area. We solicit comment on these coordination procedures and criteria.<sup>186</sup>

80. We also seek comment on what, if any, power limits (in terms of equivalent isotropically radiated power (EIRP) or effective radiated power (ERP)) 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.

81. If commenters believe that the Commission should apply a field strength limit at service area boundaries for the 4.9 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<sup>187</sup> and 55 dBuV/m for 4660-4685 MHz licenses.<sup>188</sup> In Section 27.55 of the Commission's Rules,<sup>189</sup> the Commission adopted a field strength limit of 47 dBuV/m for licensees in the 2.3 GHz band.<sup>190</sup> Therefore, commenters who support a boundary limit should propose a specific value and explain the method they have used in deriving it.

82. Section 27.64 of the Commission's Rules<sup>191</sup> states generally that Part 27 stations operating in full accordance with applicable Commission rules and the terms and 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 4.9 GHz licensees, we seek comment on whether we should modify or delete this rule. Commenters should address 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.<sup>192</sup> We also seek comment on whether we should apply any changes with respect to Section 27.64 to the 2.3 GHz band.

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<sup>186</sup> See Appendix B, Proposed Sections 27.57 and 27.65 of the Commission's Rules, 47 C.F.R. §§ 27.57, 27.65.

<sup>187</sup> 47 C.F.R. § 24.236.

<sup>188</sup> 47 C.F.R. § 26.55.

<sup>189</sup> 47 C.F.R. § 27.55.

<sup>190</sup> See *Part 27 Report and Order*, 12 FCC Rcd at 10864 (para. 159).

<sup>191</sup> 47 C.F.R. § 27.64.

<sup>192</sup> Cf. 47 C.F.R. § 22.352, which governs predominantly mobile operations.

83. Finally, in order to protect radio astronomy operations, we are seeking comment on whether power limits and coordination procedures should be imposed on 4.9 GHz licensees operating in those geographic areas defined in revised footnote US311 to the Table of Frequency Allocations.<sup>193</sup> We request comment on whether restrictions on operations should be imposed in order to adequately protect radio astronomy operations. Commenters who believe that we should allow fixed or mobile operations, except aeronautical mobile, in the designated geographic areas should present specific recommendations for ensuring that interference to radio astronomy operations does not occur.

## 2. U.S. Navy Cooperative Engagement Capability System

84. The Cooperative Engagement Capability (“CEC”) system is a major new networking system being developed by the military to provide connectivity between air, land, and sea units for Theater Air Defense.<sup>194</sup> The system will operate in the band immediately below the 4.9 GHz band. In order to minimize mutual interference between the CEC system and prospective licensees operating in the 4.9 GHz band, certain CEC technical characteristics have been released so that 4.9 GHz equipment can be designed to reduce susceptibility to interference.<sup>195</sup>

85. The CEC operates on multiple frequencies in the bands below the 4.9 GHz band. The authorized bandwidth of the transmitted signal on a specific frequency is 22 MHz. In order to comply with NTIA regulations, the CEC-authorized bandwidth will be contained wholly within the adjacent Federal band so that it does not interfere with the 4.9 GHz band. To achieve this objective, the center frequency of any CEC transmitted signal will not fall above the frequency 4929 MHz.

86. The CEC system employs high power transmitters with directional antennas to achieve a maximum EIRP of 58 dBW (630 Kw). Under most deployment scenarios, this maximum EIRP level will be directed towards the operational areas or out to sea. Under certain conditions, however, this maximum EIRP value may be directed at the horizon and inland from aircraft operating in the operational areas. The CEC emission characteristic was designed to be spectrally efficient to exceed NTIA requirements for unwanted emissions. Specific spectral parameters as identified by NTIA are as follows:<sup>196</sup>

### CEC Out-of-Band Emissions

1. At +/- 7.65 MHz from the transmitter center frequency -3 dBc
2. At +/- 12.1 MHz from the transmitter center frequency -30 dBc

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<sup>193</sup> See para. 18, *supra*.

<sup>194</sup> See Report to Congressional Committees, Defense Communications: Federal Frequency Spectrum Sale Could Impair Military Operations, General Accounting Office, GAO/NSIAD-97-131 (June 1997).

<sup>195</sup> *Reallocation Letter at Annex C; see also Reserve Prices PN, Attachment A.*

<sup>196</sup> The unit of dBc refers to dB below the carrier power. The unit of dBc/Hz refers to dB below the carrier power measured in a one Hz bandwidth.

**Transmitter Noise** at greater than +/- 25.6 MHz from the transmitter center frequency Less than -145 dBc/Hz

**Harmonics and Spurious** Less than -80 dBc

87. The locations in which large numbers of CEC nodes will be operating include a number of Naval and joint military exercise areas. CEC units will be located on ships and aircraft, and at land based sites. The normal operating areas are coastal waters and the contiguous land mass that extends 30 nautical miles inland. The operating altitude of CEC-equipped aircraft will typically extend to 35,000 feet.

88. The Department of Commerce identified ten areas as essential to support training with a large number of cooperating units in a CEC network.<sup>197</sup> The technical parameters and operational areas on adjacent band Federal spectrum use were provided for information so that potential auction bidders could make informed decisions. The significance of these areas is that airborne CEC units with high power transmitters are expected to be flown directly overhead and extend out to sea in and around existing military operational areas. These ten areas will affect 91 EAs.<sup>198</sup>

89. We seek comment on what measures should be taken to protect the 4.9 GHz licensees from interference from Federal Government use of the adjacent band. While we seek to protect 4.9 GHz licensees from interference, we also wish to provide 4.9 GHz licensees operating in the affected EAs with as much flexibility as possible in terms of the types of services they can offer and the types of systems they can install. We seek comment on whether certain technical standards should be imposed on 4.9 GHz licensees to meet these goals.

#### **F. Competitive Bidding Procedures**

90. In 1998 we revised most of the auction rules for the band 4660-4685 MHz, which was previously allocated to the service that is now proposed for the 4.9 GHz band.<sup>199</sup> Specifically, we replaced most of the Part 26 auction rules with streamlined Part 1 rules. With regard to auction provisions for designated entities, we simplified the definition of small business, eliminated installment payments, and increased the bidding credit. Furthermore, we directed the Wireless Telecommunications Bureau to determine the competitive bidding mechanisms, upfront payments, and minimum opening bids that will apply to the band 4660-4685 MHz.

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<sup>197</sup> In its *Reallocation Letter*, the Department of Commerce identified eight areas. *Reallocation Letter* at Annex C, Enclosure 1. Since that time, the Department has identified two additional areas. See Appendix C for a list of the ten areas.

<sup>198</sup> See Appendix D for a list of the affected EAs.

<sup>199</sup> Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685, ET Docket No. 94-32, Fourth Report and Order, 13 FCC Rcd. 18939 (1998) (*GWCS Fourth Report and Order*).

91. Below we propose to use the Part 1 auction rules to initially license the 4.9 GHz band. In addition, under our proposal, the remaining Part 26 auction rules for the band 4660-4685 MHz would be moved to Part 27 and made applicable to the 4.9 GHz band.

#### 1. Statutory Requirements

92. The BBA-97 amended Section 309(j) of the Act to require the Commission to award mutually exclusive applications for initial licenses or permits using competitive bidding procedures, with very limited exceptions.<sup>200</sup> Thus, if not exempted by the statute, a service will be auctionable if we implement a licensing process that permits the filing and acceptance of mutually exclusive applications. In establishing particular licensing schemes or methodologies, the Commission is required to consider the public interest objectives described in section 309(j)(3).

93. Pursuant to Section 309(j)(6)(E) of the Act, the Commission has an “obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings.”<sup>201</sup> In the BBA-97, Congress highlighted the Commission’s obligation under Section 309(j)(6)(E) by referencing that obligation in the general auction authority provision. Global argues in its Petition for Rulemaking that the Commission should fulfill its obligation under Section 309(j)(6)(E) by seeking to avoid mutual exclusivity through engineering solutions achieved by negotiation among applicants after the filing of short-form auction applications.<sup>202</sup> The Commission recently sought comment on the scope and content of the Commission’s obligation under Section 309(j)(6)(E).<sup>203</sup> In determining whether to assign licenses in the 4.9 GHz band through competitive bidding, we intend to adhere to any conclusions we reach in the Balanced Budget Act proceeding regarding the scope of our auction authority, in light of our conclusions concerning our obligations under Section 309(j)(6)(E).

94. As discussed above, we propose to license the 4.9 GHz band using a licensing system based on geographic areas.<sup>204</sup> Because we have tentatively concluded that it would serve the public interest to implement a geographic area licensing scheme under which mutual exclusivity is possible, we also tentatively conclude that mutually exclusive initial applications for the 4.9 GHz band must be resolved through competitive bidding. We seek comment on this tentative conclusion. We also note that

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<sup>200</sup> See 47 U.S.C. § 309(j)(1)(2). Section 309(j)(2) exempts from auctions licenses and construction permits for public safety radio services, digital television service licenses and permits given to existing terrestrial broadcast licensees to replace their analog television service licenses, and licenses and construction permits for noncommercial educational broadcast stations and public broadcast stations.

<sup>201</sup> See 47 U.S.C. § 309(j)(6)(E).

<sup>202</sup> *Global Frontiers Petition for Rulemaking* at 13-17.

<sup>203</sup> See Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies, RM-9332, Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz, RM-9405, Notice of Proposed Rule Making, 14 FCC Rcd 5206 (1999) (*BBA NPRM*).

<sup>204</sup> See para. 43, *supra*.

the Commission previously concluded that GWCS spectrum, originally allocated at 4660-4685 MHz, should be assigned by auction in case of mutually exclusive applications.<sup>205</sup> In the *BBA NPRM*, we reiterated our conclusion that the Commission will not re-examine previous determinations that specific services or frequency bands were auctionable under the 1993 Budget Act.<sup>206</sup> Accordingly, we tentatively conclude that our previous determination of auctionability is dispositive here with regard to the substituted spectrum.

95. Section 3002 of the BBA-97<sup>207</sup> also directs the Commission to provide for the “design and conduct (for purposes of testing) of competitive bidding using a contingent combinatorial bidding system that permits prospective bidders to bid on combinations or groups of licenses in single bid and to enter multiple alternative bids within a single bidding round.” The Commission has contracted for the development and testing of a means to employ combinatorial bidding in a spectrum auction environment.<sup>208</sup> Should the combinatorial bidding tests produce a feasible and appropriate auction methodology, we seek comment on whether the 4.9 GHz auction may present a suitable opportunity for the use of such combinatorial procedures.

96. Section 113(g) of the National Telecommunications and Information Administration Organization Act generally does not require commercial licensees to reimburse the relocation costs of federal entities that used frequencies reallocated to commercial uses pursuant to OBRA 1993.<sup>209</sup> Moreover, the Department of Commerce has determined that successful bidders will not be required to compensate Federal agencies required to relocate from the band 4940-4990 MHz.<sup>210</sup>

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<sup>205</sup> See *GWCS Second Report and Order*, 11 FCC Rcd at 642 (para. 42).

<sup>206</sup> See *BBA NPRM*, 14 FCC Rcd at 5222 (para. 25).

<sup>207</sup> See 47 U.S.C. § 309(j)(3).

<sup>208</sup> See *Part 1 Third Report and Order*, 13 FCC Rcd at 453 (para. 137); See also Wireless Bureau Begins Process of Designing a Combinatorial Bidding System for Future Commission Auctions, News Report No. WT 98-35, released Sept. 28, 1998.

<sup>209</sup> Section 113(g) of the National Telecommunications and Information Administration Organization Act, 47 U.S.C. § 923(g), was amended by the Strom Thurmond National Defense Authorization Act of 1998, Pub. L. No. 105-33, Title III, 111 Stat. 251(1997), to create mandatory reimbursement rights for federal agencies required to relocate to make spectrum available for commercial uses. With the exception of the band 1710-1755 MHz of spectrum, the mandatory reimbursement rights do not apply to Federal spectrum identified for reallocation pursuant to OBRA 1993. See 47 U.S.C. § 923(g)(1)(F).

<sup>210</sup> In 1995, the Department of Commerce issued a report, pursuant to the requirements of OBRA 1993, that identified a 50 MHz segment from 4635-4685 MHz for reallocation to commercial uses. See *Spectrum Reallocation Final Report*. Subsequently, the Department of Commerce exercised, on behalf of the President, the right to reclaim that band segment and substitute the band 4940-4990 MHz. See para. 8, *supra*. In making this spectrum substitution, the Department of Commerce specifically determined that “successful bidders will not be required to compensate Federal agencies required to relocate as a result of this action.” *Reallocation Letter*, Statement of Reasons at n. 8.

## 2. Incorporation by Reference of Part 1 Standardized Auction Rules

97. 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,<sup>211</sup> and, in the same proceeding, issued a *Second Further Notice of Proposed Rule Making* concerning designated entities and attribution rules, among other issues.<sup>212</sup> We propose to conduct the auction for initial licenses in the 4.9 GHz band in conformity with the general competitive bidding rules set forth in Part 1, subpart Q of the Commission's rules, and 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.<sup>213</sup> 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 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

98. 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.<sup>214</sup> Specifically, the statute provides that, in establishing eligibility criteria and bidding methodologies, the Commission shall:<sup>215</sup>

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

99. 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

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<sup>211</sup> See *Part 1 Third Report and Order*, 13 FCC Rcd at 381-470 (paras 4-169).

<sup>212</sup> *Part 1 Second Further Notice*, 13 FCC Rcd at 471-481 (paras. 170-194).

<sup>213</sup> We note that Global Frontiers' suggestion with respect to avoidance of mutual exclusivity pursuant to 47 U.S.C. § 309(j)(6)(E) would require an exception to the Commission's general competitive bidding rules, 47 C.F.R. § 1.2105. See *Global Frontiers Petition for Rulemaking* at 13-17.

<sup>214</sup> See Sections 309(j)(3) and 309(j)(4) of the Communications Act, 47 U.S.C. §§ 309(j)(3), 309(j)(4).

<sup>215</sup> See 47 U.S.C. § 309(j)(3)(B).

the appropriate threshold.<sup>216</sup> While the *Part 1 Third Report and Order* standardizes many auction rules, it provides that the Commission will continue a service-by-service approach to defining small businesses. For the 4.9 GHz band, we propose to adopt the definitions the Commission adopted for broadband PCS for “small” and “very small” businesses,<sup>217</sup> which the Commission also adopted for 2.3 GHz and 39 GHz applicants.<sup>218</sup> The Commission previously adopted the same definition for the band 4660-4685 MHz, which is presently contained in Section 26.4 of the Commission rules.<sup>219</sup> 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. For entities that qualify as small businesses, we propose to provide a bidding credit of 15 percent.<sup>220</sup>

100. We also seek to adopt small business size standards that afford licensees substantial 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<sup>221</sup> and for the PCS C and F block licenses:<sup>222</sup> businesses with average annual gross revenues for the three preceding years not in excess of \$15 million. For entities that qualify as very small businesses, we propose to provide a bidding credit of 25 percent.<sup>223</sup>

101. We seek comment on the use of these standards for services licensed in the 4.9 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 provide data demonstrating the build-out and other capital requirements for services in the 4.9 GHz band, as well as the anticipated start-up costs for providing service, and how these costs compare with costs for other services. 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.

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<sup>216</sup> 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*).

<sup>217</sup> 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).

<sup>218</sup> See 47 C.F.R. §§ 27.210(b)(1)(2), 101.1209(b)(1)(i).

<sup>219</sup> We propose to move this rule into Part 27 (*see* para. 91, *supra*). This standard was approved by the Small Business Administration. Letter to Daniel B. Phythyon, Chief, Wireless Telecommunications Bureau, from Aida Alvarez, Administrator, Small Business Administration, dated May 19, 1998.

<sup>220</sup> See 47 C.F.R. § 1.2110(e)(2)(iii).

<sup>221</sup> See 47 C.F.R. § 101.11209(b)(ii).

<sup>222</sup> See 47 C.F.R. § 27.210(b)(1)(2).

<sup>223</sup> See 47 C.F.R. § 1.2110(e)(2)(ii).

Commenters also should address to what extent, if any, the proposed size standards, with the applicable bidding credits, would impact the ability of small businesses to acquire financing. We also seek comment on the advantages of a two-tiered standard, as opposed to a single size standard.

102. Furthermore, we 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.<sup>224</sup>

103. In calculating gross revenues for purposes of small business eligibility in the 4.9 GHz auction, we propose to attribute the gross revenues of the applicant, its controlling interests and its affiliates. This approach is consistent with our proposal in the *Part 1 Second Further Notice*,<sup>225</sup> and is similar to the attribution rules we have employed for the recent LMDS, 800 MHz SMR, and LMS auction proceedings.<sup>226</sup> As we noted in the *Part 1 Second Further Notice*, under this proposed controlling interest standard we would apply our comprehensive affiliation rule to all investors in the applicant.<sup>227</sup> Thus, passive interests that were otherwise non-attributable would be attributable if they are affiliates under this rule.<sup>228</sup>

#### IV. PROCEDURAL MATTERS

##### A. Initial Regulatory Flexibility Analysis

104. As required by the Regulatory Flexibility Act of 1980 (RFA),<sup>229</sup> 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.<sup>230</sup> We request written public comment on

<sup>224</sup> See *Adarand Constructors v. Peña*, 515 U.S. 200 (1995); *United States v. Virginia*, 518 U.S. 515 (1996).

<sup>225</sup> See *Part 1 Third Report and Order*, 13 FCC Rcd at 477-78 (paras. 185-87).

<sup>226</sup> See Amendment of 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, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12692-93 (1997); Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *Second Report and Order*, 12 FCC Rcd 19079, 19169 (1997); Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, *Second Report and Order*, 13 FCC Rcd 15182, 15194 (1997).

<sup>227</sup> 47 C.F.R. § 1.2110(b)(4).

<sup>228</sup> *Part 1 Second Further Notice*, 13 FCC Rcd at 478 (para. 187).

<sup>229</sup> 5 U.S.C. § 603.

<sup>230</sup> See Appendix A.

the analysis. In order to fulfill the mandate of the Contract with America Advancement Act of 1996 regarding the Final Regulatory Flexibility Analysis, we ask a number of questions in our IRFA regarding the prevalence of small businesses in the affected industries.

105. 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 Consumer Information Bureau, Reference Information Center, will send a copy of this Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

**B. Paperwork Reduction Analysis**

106. 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.<sup>231</sup> 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.

107. Written comments by the public on the proposed and/or modified information collections are due April 26, 2000. Written comments must be submitted by the OMB on the proposed and/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 1-C804, 445 Twelfth Street, S.W., Washington, D.C. 20554, or via the Internet to [jboley@fcc.gov](mailto:jboley@fcc.gov), and to Virginia Huth, OMB Desk Officer, Room 10236 New Executive Office Building, 725 Seventeenth Street, N. W., Washington, D.C. 20503, or via the Internet to [vhuth@omb.eop.gov](mailto:vhuth@omb.eop.gov).

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<sup>231</sup> Pub. L. No. 104-13.

**C. Ex Parte Presentations**

108. 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.<sup>232</sup>

**D. Pleading Dates**

109. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules,<sup>233</sup> interested parties may file comments on or before April 26, 2000 and reply comments on or before May 17, 2000. Comments and reply comments should be filed in WT Docket No. 00-32. 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, Room TW-A325, 445 Twelfth Street, S.W., Washington, D.C. 20554, with a copy to Eli Johnson, Policy Division, Wireless Telecommunications Bureau, 445 Twelfth Street, S.W., Washington, D.C. 20554.

110. Comments may also be filed using the Commission's Electronic Comment Filing System (ECFS).<sup>234</sup> 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](mailto: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.

111. Comments and reply comments will be available for public inspection during regular business hours at the FCC Reference Center, Room CY-A257, at the Federal Communications Commission, 445 Twelfth Street, S.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. 20037, (202) 857-3800.

**E. Further Information**

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

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<sup>232</sup> See generally 47 C.F.R. §§ 1.1202, 1.1203, 1.1206(a).

<sup>233</sup> 47 C.F.R. §§ 1.415, 1.419.

<sup>234</sup> See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998).

**V. ORDERING CLAUSES**

113. Accordingly, IT IS 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.

114. 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.

115. IT IS FURTHER ORDERED that the Petition for Rulemaking of Global Frontiers, Inc. To Revise Title 47, Chapter I, Parts 2 and 26, Code of Federal Regulations, in Order To Reallocate Frequencies to GWCS and Make Related Changes, is GRANTED TO THE EXTENT INDICATED HERE IN.

116. IT IS FURTHER ORDERED that, pursuant to Sections 1, 4(I) and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(I) and 332, the rulemaking proceeding captioned Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees, WT Docket No. 96-148, IS TERMINATED TO THE EXTENT INDICATED HERE IN.

117. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, 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.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas  
Secretary

## Appendix A

### Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act (RFA),<sup>1</sup> 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. 00-32. 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 as provided above in paragraph 109. The Commission will send a copy of the Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.<sup>2</sup> In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.<sup>3</sup>

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

In this Notice, we propose to allocate and establish licensing and service rules for the band 4940-4990 MHz (4.9 GHz band) that has recently been transferred from Federal Government to private sector use as substitute spectrum for the band 4635-4685 MHz that has been reclaimed for Federal Government use. Specifically, we propose to allocate the 4.9 GHz band to fixed and mobile services, except aeronautical mobile service, on a primary basis and we seek comment on the geographic area and spectrum blocks that should be used to license this spectrum. We also propose to delete Part 26 of the Commission's Rules<sup>4</sup> containing the General Wireless Communications Service (GWCS) rules and to regulate the 4.9 GHz band under Part 27 of the Commission's Rules,<sup>5</sup> except to the extent we propose to modify those rules in this Notice to reflect the particular characteristics of this spectrum and the services that will be permitted to use this spectrum. We also propose that initial licenses for the 4.9 GHz band be acquired through competitive bidding under Part 1 of the Commission's Rules.<sup>6</sup> Furthermore, in a few instances, we propose to codify and conform certain rules for the 2.3 GHz band to provide for consistent regulation of Part 27 services.

Our objectives for the Notice are to: (1) accommodate the introduction of new uses of spectrum and the enhancement of existing uses; (2) encourage commercial development of equipment that can operate in

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

<sup>2</sup> 5 U.S.C. § 603(a).

<sup>3</sup> *See id.*

<sup>4</sup> 47 C.F.R. Part 26.

<sup>5</sup> 47 C.F.R. Part 27. Because we are proposing to delete Part 26 (GWCS) and regulate the 4.9 GHz band under Part 27 (Wireless Communications Service), we will only refer to GWCS in describing prior rules for the band 4660-4685 MHz.

<sup>6</sup> 47 C.F.R. Part 1.

the 4.9 GHz band; (3) facilitate the awarding of licenses to entities who value them the most; and (4) create new jobs, foster economic growth and improve access to communications by industry and the American public. The Commission also seeks to ensure a regulatory plan for the 4.9 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.

#### **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**

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>7</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under Section 3 of the Small Business Act, unless the Commission has developed one or more definitions that are appropriate for its activities.<sup>8</sup> 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) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>9</sup> A small organization is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>10</sup> Nationwide, as of 1992, there were approximately 275,801 small organizations.<sup>11</sup>

The definition of “small governmental entity” is one with populations of fewer than 50,000.<sup>12</sup> There are 85,006 governmental entities in the nation.<sup>13</sup> This number includes such entities as states, counties, cities, utility districts and school districts. There are no figures available on what portion of this number has populations of fewer than 50,00. However, this number includes 38,978 counties, cities and towns, and

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<sup>7</sup> 5 U.S.C. § 603(b)(3).

<sup>8</sup> *Id.* § 601(3).

<sup>9</sup> *Id.* § 632.

<sup>10</sup> *Id.* § 601(4).

<sup>11</sup> Department of Commerce, U.S. Bureau of the Census, 1992 Economic Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

<sup>12</sup> 5 U.S.C. § 601(5).

<sup>13</sup> 1992 Census of Governments, U.S. Bureau of the Census, U.S. Department of Commerce.

of those, 37,556, or ninety-six percent, have populations of fewer than 50,000.<sup>14</sup> The Census Bureau estimates that this ratio is approximately accurate for all government entities. Thus, of the 85,006 governmental entities, we estimate that ninety-six percent, or about 81,600, are small entities that may be affected by our rules.

The proposals in the Notice affect applicants who wish to provide services in the 4.9 GHz band. We note that pursuant to 47 C.F.R. § 24.720(b), the Commission has previously defined “small entity” for Blocks C and F broadband PCS licensees as firms that had average gross revenues of less than \$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.<sup>15</sup> We also note that the Commission has adopted this same definition for 2.3 GHz and 39 GHz applicants,<sup>16</sup> as well as for the band 4660-4685 MHz.<sup>17</sup> With respect to prospective 4.9 GHz license applicants, we propose to use the small entity definition adopted in the Broadband PCS proceeding.<sup>18</sup>

In addition, we note that if the above-proposed special small business definition were not to be used, the applicable definition of small entity is the definition under the SBA rules applicable to radiotelephone (wireless) companies. This provides that a small entity is a radiotelephone company employing no more than 1,500 persons.<sup>19</sup> According to the Bureau of the Census, only twelve radiotelephone firms from a total of 1,178 such firms which operated during 1992 had 1,000 or more employees.<sup>20</sup>

The Notice observes that the capital costs of operational facilities in the 4.9 GHz band are likely to vary widely. Accordingly, the Notice seeks to adopt small business size standards that afford licensees substantial flexibility. Thus, in addition to its proposal to adopt the general small business standard the Commission used in the case of broadband PCS, 2.3 GHz, 39 GHz, and 4660-4685 MHz licenses, the Notice also proposes to adopt the definition for very small businesses used for 39 GHz licenses<sup>21</sup> and for

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<sup>14</sup> *Id.*

<sup>15</sup> 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).

<sup>16</sup> See 47 C.F.R. §§ 27.210(b)(1)(2), 101.1209(b)(1)(ii).

<sup>17</sup> For the band 4660-4685 MHz, this standard was approved by the SBA. Letter to Daniel B. Phythyon, Chief, Wireless Telecommunications Bureau, from Aida Alvarez, Administrator, Small Business Administration, dated May 19, 1998.

<sup>18</sup> We are coordinating with the SBA for approval of this small business size standard, as with the second standard discussed below, for 4.9 GHz.

<sup>19</sup> 13 C.F.R. §121.201, SIC code 4812.

<sup>20</sup> 1992 Census, Series UC92-S-1, at Table 5, SIC code 4812.

<sup>21</sup> See 47 C.F.R. § 101.11209(b)(ii).

the PCS C and F block licenses:<sup>22</sup> businesses with average annual gross revenues for the three preceding years not in excess of \$15 million.

While the Notice proposes to use these definitions, the Commission 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. In addition, at this point in the proceeding, the Commission does not know how many licensees will partition their license areas or disaggregate their spectrum blocks, if partitioning and disaggregation are allowed. 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 4.9 GHz band.

We invite comment on this analysis.

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

Entities interested in acquiring spectrum in the 4.9 GHz band will be required to submit license applications and high bidders will be required to apply for their individual licenses.<sup>23</sup> The proposals under consideration in this item also include requiring commercial licensees to make showings that they are in compliance with construction requirements,<sup>24</sup> file applications for license renewals<sup>25</sup> and make certain other filings as required by the Communications Act.<sup>26</sup> 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**

In the Notice, we seek data demonstrating build-out and other capital requirements for services in the 4.9 GHz band, as well as the anticipated start-up costs for providing service, and how these costs compare with costs for other services.<sup>27</sup> 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. Commenters are asked to address to what extent the proposed size standards will impact the ability of small businesses to acquire financing. In addition, we seek comment on whether the proposed designated entity provisions would be sufficient to

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<sup>22</sup> See 47 C.F.R. § 27.210(b)(1)(2).

<sup>23</sup> See para. 30, *supra*.

<sup>24</sup> See paras. 58-62, *supra*.

<sup>25</sup> See paras. 50, *supra*.

<sup>26</sup> See paras. 39-40, *supra*.

<sup>27</sup> See para. 101, *supra*.

promote participation by businesses owned by minorities and by women, and participation by rural telephone companies.<sup>28</sup>

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.<sup>29</sup> We have also sought comment on different approaches to minimizing the burdens of interference management.<sup>30</sup> In addition, we have sought comment on combinatorial auction procedures, which may enable small entities to participate in the licensing process with more flexibility.<sup>31</sup>

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.

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<sup>28</sup> See para. 102, *supra*.

<sup>29</sup> See paras. 51-57, *supra*.

<sup>30</sup> See paras. 73-83, *supra*.

<sup>31</sup> See para. 95, *supra*.

**Appendix B**

**Proposed Rules**

For the reasons discussed in the preamble, parts 2, 26, and 27 of Title 47 of the Code of Federal Regulations are proposed to be amended as follows:

**PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;  
GENERAL RULES AND REGULATIONS**

1. The authority citation for part 2 continues to read:

Authority: 47 U.S.C. 154, 302, 303, 307, 336, and 337 unless otherwise noted.

2. Page 55 of Table of Frequency Allocations, 47 CFR § 2.106, is revised to read as follows.

3. In the list of United States footnotes, footnote US257 is removed and footnote US311 is revised.

The additions and revisions read as follows:

**§ 2.106 Table of Frequency Allocations.**

## 3700-5650 MHz (SHF)

Page 55

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 3600-4200 MHz	3700-4200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile		3700-4200	3700-4200 FIXED NG41 FIXED-SATELLITE (space-to-Earth)	International Fixed (23) Satellite Communications (25) Fixed Microwave (101)
4200-4400 AERONAUTICAL RADIONAVIGATION S5.438			4200-4400 AERONAUTICAL RADIONAVIGATION		Aviation (87)
S5.437 S5.439 S5.440			S5.440 US261		
4400-4500 FIXED MOBILE			4400-4500 FIXED MOBILE	4400-4500	
4500-4800 FIXED FIXED-SATELLITE (space-to-Earth) S5.441 MOBILE			4500-4800 FIXED MOBILE  US245	4500-4800 FIXED-SATELLITE (space-to-Earth) 792A US245	
4800-4990 FIXED MOBILE S5.442 Radio astronomy			4800-4940 FIXED MOBILE  S5.149 US203	4800-4940   S5.149 US203	
S5.149 S5.339 S5.443			4940-4990	4940-4990 FIXED MOBILE except aeronautical mobile	Wireless Communications (27)
4990-5000 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive)			S5.149 S5.339 US311	S5.149 S5.339 US311	
S5.149			4990-5000 RADIO ASTRONOMY US74 Space research (passive)		
5000-5150 AERONAUTICAL RADIONAVIGATION			US246		
S5.367 S5.444 S5.444A			5000-5250 AERONAUTICAL RADIONAVIGATION US260		Satellite Communications (25) Aviation (87)

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## UNITED STATES (US) FOOTNOTES

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US311 Radio astronomy observations may be made in the bands 1350-1400 MHz and 4950-4990 MHz on an unprotected basis at certain radio astronomy observatories indicated below:

National Astronomy and Ionosphere Center, Arecibo, Puerto Rico	Rectangle between latitudes 17° 30' N and 19° 00' N and between longitudes 65° 10' W and 68° 00' W.	
National Radio Astronomy Observatory, Socorro, New Mexico	Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W.	
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W.	
National Radio Astronomy Observatory, Very Long Baseline Array Stations	80 kilometers (50 mile) radius centered on:	
	Latitude (North)	Longitude (West)
Pie Town, NM	34° 18'	108° 07'
Kitt Peak, AZ	31° 57'	111° 37'
Los Alamos, NM	35° 47'	106° 15'
Fort Davis, TX	30° 38'	103° 57'
North Liberty, IA	41° 46'	91° 34'
Brewster, WA	48° 08'	119° 41'
Owens Valley, CA	37° 14'	118° 17'
Saint Croix, VI	17° 46'	64° 35'
Mauna Kea, HI	19° 48'	155° 27'
Hancock, NH	42° 56'	71° 59'

Every practicable effort will be made to avoid the assignment of frequencies in the bands 1350-1400 MHz and 4950-4990 MHz to stations in the fixed and mobile services which could interfere with radio astronomy observations within the geographic areas given above. In addition, every practicable effort will be made to avoid assignment of frequencies in these bands to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause

harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

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PART 26 -- GENERAL WIRELESS COMMUNICATIONS SERVICE

4. Part 26 of Title 47 of the Code of Federal Regulations is removed in its entirety.

PART 27 — WIRELESS COMMUNICATIONS SERVICE

5. The authority citation for part 27 continues to read as follows:

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

6. Section 27.1 is amended by adding paragraph (b)(3) to read as follows:

**§ 27.1 Basis and purpose.**

(b) \* \* \*

(3) 4940-4990 MHz.

\* \* \* \* \*

7. Section 27.14 is amended by adding paragraphs (a)(1) and (a)(2) 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.

(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.

\* \* \* \* \*

8. Section 27.53 is amended by adding new paragraph (f) as follows:

**§ 27.53 Emission limits.**

\* \* \* \* \*

(f) ~~For the band 4940-4990 MHz:~~ The peak power of any emission outside the licensee's authorized band, either measured in, or referred to a 1 MHz instrument bandwidth, shall be attenuated below the maximum peak spectral density by at least  $43 + 10 \log (p)$  dB or 80 dB, whichever is less.

9. Section 27.57 is revised to read as follows:

**§ 27.57 International coordination.**

WCS licensees shall comply with the appropriate coordination agreements between the United States and Canada and the United States and Mexico concerning cross-border sharing and use of WCS bands. 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.

10. Section 27.65 is added to read as follows:

**§ 27.65 Interference protection criteria.**

(a) All harmful interference to other users and blocking of adjacent channel use in the same or adjacent geographical area is prohibited. In areas where EAs are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting antenna. Licensees are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(b) As a condition for use of frequencies in this service each licensee is required to:

(1) Engineer the system to be reasonably compatible with adjacent and co-channel operations in the same or adjacent areas; and

(2) Cooperate fully and in good faith to resolve whatever potential interference and transmission security problems may be present in adjacent and co-channel operations.

(c) Licensee shall coordinate their facilities whenever the facilities have line-of-sight into co-channel and adjacent channel licensee facilities. Licensees are encouraged to develop operational agreements with relevant licensees in the same or adjacent areas.

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**Appendix C****CEC Operating Area Descriptions**

- (1) The area extending 30 nautical miles (nm) inland from the Atlantic Ocean between Wilmington, North Carolina (NC) and Lewes, Delaware (DE) facilitate Atlantic Fleet exercises. The land based CEC terminals at Wallops Island, Virginia (VA), Eastville, VA, and Dam Neck, VA are within the boundaries established for the Atlantic Fleet exercises. The Cherry Point and Onslow Bay NC areas are also included. The Naval Air Warfare Center at Patuxent River, Maryland (MD) and facilities at Greenville, South Carolina (SC), Jacksonville, Florida (FL), and St. Petersburg, FL are not included in the inland areas. The exclusion of the four sites does not preclude CEC Radio Frequency (RF) emissions at these sites.
- (2) The area extending 30 nm inland from the Gulf of Mexico between the Louisiana (LA)-Mississippi (MS) state border and Panama City, FL, to support Gulf of Mexico exercises. The area includes Gulfport and Biloxi, MS, and Pensacola and Eglin AFL, FL.
- (3) The area extending 30 nm inland from the Pacific Ocean between Vandenberg Air Force Base, California (CA) and Point Mugu Naval Air Station, CA, to support Pacific Fleet exercises.
- (4) The area extending 30 nm inland from the Pacific Ocean between Newport Beach, CA, and the CA-Mexico international border to support Pacific Fleet exercises. The area includes Camp Pendleton, CA.
- (5) The area that includes the White Sands Missile Range, New Mexico (NM) and the Fort Bliss Military Reservation, Texas (TX) and NM to support the joint Chiefs of Staff Roving Sands Exercise.
- (6) The area that includes the China Lake Naval Weapons Center and the Fort Irwin Military Reservation, CA.
- (7) All of Hawaii, including the Pacific Missile Range Facility.
- (8) All of Puerto Rico, including the Armed Forces Weapons Test Facility.
- (9) The area extending 30 nm inland and 30 nm south of the Georgia-South Carolina state line.
- (10) The area within 5 nm of Wright Army Field and Hunter Army Air Field near Savannah, Georgia.

**Appendix D**  
**CEC Impacted EAs**

EA	Name	MEA	REA
3	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	1	1
5	Albany-Schenectady-Troy, NY	2	1
6	Syracuse, NY-PA	2	1
7	Rochester, NY-PA	2	1
8	Buffalo-Niagara Falls, NY-PA	3	1
9	State College, PA	12	3
10	New York-No. New Jer.-Long Island, NY-NJ-CT-PA-MA-VT	2	1
11	Harrisburg-Lebanon-Carlisle, PA	4	1
12	Philadelphia-Wilmington-Atl. City, PA-NJ-DE-MD	4	1
13	Washington-Baltimore, DC-MD-VA-WV-PA	5	2
14	Salisbury, MD-DE-VA	5	2
15	Richmond-Petersburg, VA	6	2
16	Staunton, VA-WV	6	2
17	Roanoke, VA-NC-WV	6	2
18	Greensboro-Winston-Salem-High Point, NC-VA	7	2
19	Raleigh-Durham-Chapel Hill, NC	7	2
20	Norfolk-Virginia Beach-Newport News, VA-NC	6	2
21	Greenville, NC	7	2
22	Fayetteville, NC	7	2
23	Charlotte-Gastonia-Rock Hill, NC-SC	7	2
24	Columbia, SC	7	2

EA	Name	MEA	REA
25	Wilmington, NC-SC	7	2
26	Charleston-North Charleston, SC	7	2
27	Augusta-Aiken, GA-SC	8	2
28	Savannah, GA-SC	8	2
29	Jacksonville, FL-GA	9	2
30	Orlando, FL	10	2
33	Sarasota-Bradenton, FL	10	2
34	Tampa-St. Petersburg-Clearwater, FL	10	2
35	Tallahassee, FL-GA	9	2
36	Dothan, AL-FL-GA	24	4
37	Albany, GA	8	2
38	Macon, GA	8	2
39	Columbus, GA-AL	8	2
40	Atlanta, GA-AL-NC	8	2
41	Greenville-Spartanburg-Anderson, SC-NC	7	2
42	Asheville, NC	7	2
43	Chattanooga, TN-GA	8	2
44	Knoxville, TN	220	4
45	Johnson City-Kingsport-Bristol, TN-VA	22	4
46	Hickory-Morganton, NC-TN	7	2
47	Lexington, KY-TN-VA-WV	23	4
48	Charleston, WV-KY-OH	13	3
53	Pittsburgh, PA-WV	12	3

EA	Name	MEA	REA
54	Erie, PA	15	3
73	Memphis, TN-AR-MS-KY	26	4
74	Huntsville, AL-TN	24	4
75	Tupelo, MS-AL-TN	26	4
76	Greenville, MS	26	4
77	Jackson, MS-AL-LA	26	4
78	Birmingham, AL	24	4
79	Montgomery, AL	24	4
80	Mobile, AL	27	4
81	Pensacola, FL	27	4
82	Biloxi-Gulfport-Pascagoula, MS	27	4
83	New Orleans, LA-MS	27	4
84	Baton Rouge, LA-MS	27	4
85	Lafayette, LA	27	4
86	Lake Charles, LA	31	5
87	Beaumont-Port Arthur, TX	31	5
88	Shreveport-Bossier City, LA-AR	32	5
89	Monroe, LA	32	5
90	Little Rock-North Little Rock, AR	28	4
122	Wichita, KS-OK	35	5
126	Western Oklahoma, OK	37	5
127	Dallas-Fort Worth, TX-AR-OK	32	5
128	Abilene, TX	32	5

EA	Name	MEA	REA
129	San Angelo, TX	32	5
131	Houston-Galveston-Brazoria, TX	31	5
135	Odessa-Midland, TX	32	5
136	Hobbs, NM-TX	39	5
137	Lubbock, TX	32	5
138	Amarillo, TX-NM	32	5
139	Santa Fe, NM	39	5
140	Pueblo, CO-NM	33	5
141	Denver-Boulder-Greeley, CO-KS-NE	33	5
151	Reno, NV-CA	43	6
152	Salt Lake City-Ogden, UT-ID	42	6
153	Las Vegas, NV-AZ-UT	44	6
154	Flagstaff, AZ-UT	40	5
155	Farmington, NM-CO	39	5
156	Albuquerque, NM-AZ	39	5
157	El Paso, TX-NM	39	5
158	Phoenix-Mesa, AZ-NM	40	5
159	Tucson, AZ	40	5
160	Los Angeles-Riverside-Orange County, CA-AZ	44	6
161	San Diego, CA	44	6
162	Fresno, CA	43	6
163	San Francisco-Oakland-San Jose, CA	43	6
164	Sacramento-Yolo, CA	43	6

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EA	NAME	MEA	REA
172	Honolulu, HI	48	8
174	Puerto Rico and the U.S. Virgin Islands	50	10
176	Gulf of Mexico	52	12