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Report No. WT 98-14 WIRELESS TELECOMMUNICATIONS ACTION May 21, 1998

COMMISSION ADOPTS RULES AND SETS FORTH PROCESSES FOR 220-222 MHz AUCTION

The Commission has adopted a Memorandum Opinion and Order on Reconsideration (*Reconsideration Order*) setting forth rules for the 220-222 MHz radio service (220 MHz service) and paving the way for an auction of licenses in the 220 MHz service. The *Reconsideration Order* responds to five (5) petitions for reconsideration of the Commission's 2*20 MHz Second Report and Order*, and to eleven (11) petitions for reconsideration of the Commission's *220 MHz Third Report and Order*. In general, the Commission reaffirms the rules adopted in those orders with minor changes and clarifications in response to the petitions.

Within five (5) business days after the release of today's *Reconsideration Order*, the Wireless Telecommunications Bureau will release a *Public Notice* announcing key dates, procedures and terms for the 220 MHz auction. Among the key dates will be the FCC Form 175 filing deadline. This deadline will be no more than sixty (60) days after publication of the *Reconsideration Order* in the Federal Register.

The 220 MHz auction is considered Phase II in the Commission's licensing plan of this service. Licensees in Phase I of this service band were authorized by lotteries in 1992 and 1993.

In the *Reconsideration Order*:

- The Commission grants additional flexibility to Phase I licensees by permitting them to modify their authorizations to the extent that the modifications do not expand their existing service area.

- The Commission removes the spectrum efficiency standard that applied to licensees operating on channels wider than 5 kHz.

- The Commission retains criteria established in the *220 MHz Third Report and Order* for the protection of Phase I licensees.

- The Commission retains the current power limits on the mobile frequencies in the 220 MHz band.

- Consistent with the Commission's elimination of installment payment financing for future auctions, the use of installment payment plans for the 220 MHz Service auction is

eliminated. Increased bidding credits, however, are available for small and very small businesses consistent with the schedule set out in the *Part 1 Third Report and Order*.

Action by the Commission May 14, 1998 by Memorandum Opinion and Order on Reconsideration (FCC 98-93). Chairman Kennard, Commissioners Ness, Furchtgott-Roth, Powell and Tristani with Commissioner Ness issuing a separate statement.

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Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C.

In the Matter of

Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service	)	PR Docket No. 89-552
Implementation of Sections 3(n) and 332 of the Communications Act	)	GN Docket No. 93-252
Regulatory Treatment of Mobile Services	)	
Implementation of Section 309(j) of the Communications Act — Competitive Bidding	)	PP Docket No. 93-253

MEMORANDUM OPINION AND ORDER ON RECONSIDERATION

Adopted: May 14, 1998; **Released:** May 21, 1998

By the Commission: Commissioner Ness issuing a statement.

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Paragraph

I. INTRODUCTION; EXECUTIVE SUMMARY

1. In this Order we consider Petitions for Reconsideration or Clarification of two Orders concerning the 220-222 MHz radio service (220 MHz service). On January 26, 1996, the Commission adopted final rules in the *220 MHz Second Report and Order*,[1] which enabled 220 MHz licensees to modify their licenses to relocate their authorized base stations within Commission specified parameters. In the *220 MHz Third Report and Order*,[2] adopted on February 19, 1997, the Commission established rules to govern the future operation and licensing of the 220 MHz service.

[1] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, 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, 11 FCC Rcd 3668 (1996) (*220 MHz Second Report and Order*).

[2] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Third Report and Order; Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 10943 (1997) (*220 MHz Third Report and Order*).

2. The Commission has received five petitions for reconsideration or clarification of the *220 MHz Second Report and Order* and one comment filed in response to those petitions.[3] In response to these petitions, we reaffirm the decision in the *220 MHz Second Report and Order*, with one clarification. We continue to believe that the procedures the Commission has adopted provide existing 220 MHz licensees flexibility to complete construction of their systems and provide service without unreasonably impairing the opportunity of potential competitors to obtain licenses in the 220 MHz service.

3. The petitions for reconsideration or clarification of the *220 MHz Second Report and Order* address a range of issues. Based on our review of these petitions, we are taking the following actions with regard to these issues in this Order:

- We deny petitions of AMTA and SMR requesting that we permit moves up to a maximum distance of 25 kilometers (km) if the licensee is moving from a location within a Designated Filing Area (DFA) to a location outside that DFA. We also deny Incom's petition asking that we clarify our position to indicate that a licensee whose initially authorized site is located inside a DFA within 8 km of the perimeter and who seeks to modify its authorization in order to move to a location outside the DFA be permitted to move its site a maximum of 25 km.

- We grant in part petitions of AMTA and SMR requesting that we accept modifications of operating parameters other than relocation modifications to the extent that we clarify that licensees who seek to relocate may modify their antenna height above average terrain (HAAT). Otherwise, we deny these petitions with respect to this issue.

- We deny petitions of AMTA, Incom, PERS, and SMR requesting that we reconsider or clarify that if a licensee had taken delivery of its base station transceiver on or before January 26, 1996, and had filed an application for Special Temporary Authority (STA) on or before January 26, 1996, the licensee need not have been granted an STA by January 26, 1996, in order to be allowed to seek permanent authorization at its STA site.

- We deny petitions of AMTA and Incom requesting that we clarify the *220 MHz Second Report and Order* to allow waiver requests to be accompanied by an alternative site proposal.

- We deny the petition filed by In Touch asking us to clarify that the Commission will accept waiver requests other than the specific type of waiver request discussed in the *220 MHz*

[3] A list of parties (together with short title references) filing petitions for reconsideration or clarification and comments to the *220 MHz Second Report and Order* is contained in Appendix A.

Second Report and Order because such clarification is unnecessary under the Commission's rules.

4. The Commission has also received 11 petitions for reconsideration or clarification of the *220 MHz Third Report and Order*, seven comments filed in response to those petitions, and seven reply comments.[4] In general, we affirm the rules for the 220 MHz service adopted in the *220 MHz Third Report and Order*, however, we adopt some changes and clarifications in response to the petitions for reconsideration or clarification. Specifically, we are taking the following action with regard to issues raised in these petitions:

- We deny the petitions of AMTA, INTEK, PCIA, and SMR that we modify the Commission's rules to require the protection of the 28 dBu, rather than the 38 dBu, service contour of Phase I licensees.[5]

- We deny the petitions of SEA, PCIA, and INTEK that we modify the Commission's rules to calculate the service contour of 220 MHz Phase I base stations based on the maximum allowable power and antenna height for such stations.

- We grant in part the petitions of AMTA, INTEK, PCIA, and SMR that Phase I licensees be permitted to modify their authorizations to the extent that Phase I licensees will be permitted to make modifications to their authorizations which do not expand their 38 dBu service contour and also will be permitted to convert their site-by-site licenses to a single license. Otherwise, we deny these petitions with respect to this issue.

- At the request of Comtech, we clarify the Commission's decision to eliminate the emission mask requirement for a licensee's inner, contiguous channels, by indicating that the Commission intended the decision to apply to those inner, contiguous channels that a licensee might derive from multiple authorizations.

- We grant the petition of SEA that the antenna height limitation for stations operating in the 220 MHz band be associated with the HAAT of the station's transmitting antenna, rather than the antenna's height above ground.

- We deny the petitions of Comtech and Glenayre that we raise the power limit for fixed stations operating on mobile channels from 50 watts effective radiated power (ERP) to 500 watts ERP.

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[4] A list of parties (together with short title references) filing petitions for reconsideration or clarification, comments, and reply comments to the *220 MHz Third Report and Order* is contained in Appendix B.

[5] For a description of the licensing phases for 220 MHz service, see note 10, *infra*.

- We dismiss on procedural grounds the petitions of Comtech and Glenayre that we raise the power limit for the base stations of nationwide licensees from 500 watts ERP to 1400 watts ERP.

- We deny the request of Metricom that we specify the criteria used to determine whether licensees have provided substantial service.

- We remove the 220 MHz service spectrum efficiency standard, and thus grant the petition of Comtech that we eliminate the efficiency standard as applied to paging operations. Consequently, we deny the petitions of Rush and Glenayre that we amend the 220 MHz service spectrum efficiency standard.

- We dismiss on procedural grounds the petitions of Rush and Metricom that we revisit the construction requirements for Phase I licensees.

- We dismiss on procedural grounds the petitions of Global and Comtech that we revisit the requirement that nationwide, Phase I licensees construct all five channels at a minimum number of base stations at certain urban sites.

- We dismiss on procedural grounds the petitions of Global, Comtech, and Rush that we cease to require nationwide, Phase I licensees to obtain specific licenses for each base station.

- We grant the petitions of Comtech and Global seeking clarification of Section 90.769 of the Commission's Rules, by clarifying that Section 90.769 applies only to Phase II nationwide licensees and not to Phase I nationwide licensees.

- We grant the petition of National requesting that we reconsider or clarify language regarding the return of pending nationwide 220 MHz applications, by clarifying that the language ordering the return of pending nationwide applications does not apply to pending, commercial, nationwide 220 MHz applications.

- We dismiss as moot the petition of Comtech that the Commission amend its rules to permit entities to obtain more than one Phase I authorization in a geographic area.

- Consistent with the conclusions reached in the *Part 1 Third Report and Order*, we eliminate installment payment plans for small and very small businesses participating in the 220 MHz Service auction, and increase the level of bidding credits for such entities. We will also amend the Commission's rules to permit auction winners to make their final payments within

ten (10) business days after the applicable deadline, provided that they also pay a late fee of five (5) percent of the amount due.

II. BACKGROUND

5. The Commission established the 220 MHz service in the *220 MHz Report and Order* in April 1991.[6] The Commission adopted service rules for the assignment of 200 five kilohertz (kHz) channel pairs in the 220-222 MHz band to both Federal Government and private land mobile users. The Commission authorized 60 of the 200 channel pairs for nationwide licensing, with 10 of these designated for assignment to Federal Government entities. The remaining 50 nationwide channel pairs were reserved for non-Government users, with 20 channel pairs designated for "commercial" use and 30 channel pairs designated for "non-commercial" use.[7] The 20 commercial channel pairs were divided into four five-channel blocks and the 30 non-commercial channel pairs were divided into two 10-channel and two five-channel blocks. The Commission designated the remaining 140 channel pairs for non-nationwide use by both Government and non-Government licensees. The Commission also decided that all applications for 220 MHz channels would be granted on a first-come, first-served basis and that mutually exclusive applications would be assigned through random selection procedures.[8]

6. The Commission began accepting applications for 220 MHz licenses on May 1, 1991, and on May 24, 1991, after receiving over 59,000 applications, imposed a moratorium on the filing of all initial and modification applications for the 220 MHz service.[9] Since then, the

[6] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Report and Order, 6 FCC Rcd 2356 (1991) (*220 MHz Report and Order*).

[7] At the time of the adoption of the *220 MHz Report and Order*, the Commission used the term "commercial" to refer to licensees who would operate as carriers under Part 90 of the Commission's Rules and provide commercial radio services to end users. The Commission used the term "non-commercial" to refer to licensees who would use spectrum to satisfy their own internal communications requirements. These terms do not correlate directly with the terms Commercial Mobile Radio Service (CMRS) and Private Mobile Radio Service (PMRS), as defined in Section 20.3 of the Commission's Rules, 47 C.F.R. § 20.3.

[8] *220 MHz Report and Order*, 6 FCC Rcd at 2364-65 (paras. 59, 62).

[9] Acceptance of 220-222 MHz Private Land Mobile Applications, Order, 6 FCC Rcd 3333 (1991). The Private Radio Bureau stated that the imposition of a freeze on the acceptance of new applications was necessary to allow the Bureau to process the large number of 220 MHz applications received. *Id.* at 3333 (para. 4).

Commission has issued authorizations to approximately 3,800 licensees to operate "non-nationwide" 220 MHz stations.[10]

A. 220 MHz Second Report and Order

7. Shortly after the Commission began processing 220 MHz applications, a court case was brought challenging the Commission's 220 MHz licensing procedures. This effectively placed all of the more than 3,000 authorizations the Commission granted in doubt for nearly a two-year period, and the uncertainty with respect to the finality of the Commission's grant of their licenses caused many licensees to refrain from constructing their stations.[11] Following the settlement of the case in March 1994, the deadline for licensees to construct their systems and place them in operation was extended on four separate occasions to allow licensees sufficient time to construct their systems.[12] Because several years had passed since 220 MHz licensees filed their applications for which licenses were granted, many licensees found that, for various unforeseen reasons, they were unable to construct at their authorized locations. In response, the Commission issued the

[10] Licensees granted authorizations from among applications filed on or before May 24, 1991, are hereinafter referred to as Phase I licensees. On August 28, 1995, the Commission released the *Third Notice*, which proposed market area licensing and more flexible technical rules for the next phase (Phase II) of licensing of the 220 MHz band. Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, RM-8506, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 220-222 MHz, PP Docket No. 93-253, Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, 11 FCC Rcd 188 (1995) (*Third Notice*).

[11] *See* Evans v. FCC, Order, per curiam, Case No. 92-1317 (D.C. Cir. Mar. 18, 1994) (*Evans v. FCC*).

[12] In a Public Notice released on September 10, 1992, the Private Radio Bureau announced that the construction deadline for all non-nationwide 220 MHz stations would be 120 days after the disposition of the *Evans v. FCC* case. Public Notice, 7 FCC Rcd 6378 (1992). Following the disposition of the case, the Bureau extended the construction deadline to December 2, 1994, in an Order released on March 30, 1994. *See* Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, 9 FCC Rcd 1739 (1994). In the *CMRS Third Report and Order*, the Commission established April 4, 1995, as the construction deadline. Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Third Report and Order, 9 FCC Rcd 7988, 8077 (para. 184) (1994) (*CMRS Third Report and Order*), *recon. pending*. On February 17, 1995, the Wireless Telecommunications Bureau released an Order extending the deadline to December 31, 1995. *See* Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, 10 FCC Rcd 3356 (Wireless Tel. Bur. 1995). On December 15, 1995, the Bureau released an Order providing for a further extension of the construction deadline contingent upon the closure of the Commission as a result of any furlough of Federal Government employees. The ensuing 23-day Federal furlough resulted in an extension of the construction deadline to February 2, 1996, pursuant to a formula established in the Bureau Order. *See* Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, 11 FCC Rcd 9710 (Wireless Tel. Bur. 1995).

Fourth Notice, proposing a procedure to enable existing licensees in the 220 MHz service to seek modification of their authorizations to relocate their base stations.[13]

8. Based on its review of the record following the release of the *Fourth Notice*, on January 26, 1996, the Commission adopted and released the *220 MHz Second Report and Order*. In that *Order*, the Commission adopted a procedure that enabled 220 MHz licensees to modify their licenses to relocate their authorized base stations to previously unauthorized locations. Under this procedure, licensees with base stations authorized inside any DFA[14] were permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance of 8 km.[15] Licensees with base stations authorized outside the boundaries of any DFA were permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance of 25 km, so long as they did not locate their base station more than 8 km inside the boundaries of any DFA.[16] A licensee was permitted to relocate its base station less than 120 km from the base station of a co-channel licensee or more than one-half the distance over 120 km toward the base station of a co-channel licensee only with the consent of that licensee.[17]

9. The Commission also extended the February 2, 1996 construction deadline to March 11, 1996 for all non-nationwide 220 MHz licensees that elected to construct their base stations at their originally-authorized locations, and to August 15, 1996 for all licensees granted authority to modify their licenses to relocate their base stations.[18] Licensees seeking authority to modify their authorizations to relocate their base stations were required to file, on or before March 11, 1996, a modification application or statement of their intention to file an application requesting such modification, and were required to file a modification application on or before May 1, 1996.[19]

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[13] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, Fourth Notice of Proposed Rulemaking, 11 FCC Rcd 835 (1995) (*Fourth Notice*).

[14] The Commission established 50 Designated Filing Areas in its initial licensing of the 900 MHz Specialized Mobile Radio band. *See* Public Notice, Private Land Mobile Application Procedures for Spectrum in the 896-901 MHz and 935-940 MHz bands, DA 86-173, 1 FCC Rcd 543 (1986).

[15] *220 MHz Second Report and Order*, 11 FCC Rcd at 3670 (para. 9).

[16] *Id.*

[17] *Id.*

[18] *Id.* at 3674 (para. 21).

[19] *Id.* at 3674 (para. 22).

B. 220 MHz Third Report and Order

10. On July 28, 1995, the Commission adopted the *Third Notice*, which proposed a new framework for the operation and licensing of the 220-222 MHz band.[20] Based on its review of the comments in response to the *Third Notice*, the Commission adopted the *220 MHz Third Report and Order* on February 19, 1997. In the *220 MHz Third Report and Order*, the Commission decided to return pending, mutually exclusive applications for the four non-commercial, Phase I nationwide licenses and adopt a new licensing procedure for the 30 channels associated with these licenses. The Commission determined that the 30 channels would be licensed on a nationwide basis to all applicants, whether used for commercial services or for a licensee's private, internal use. The channels will be assigned, in the form of three 10-channel authorizations, through competitive bidding.

11. The Commission also decided to assign the non-nationwide licenses as five blocks (composed of 10 channels in each block) in 175 geographic areas defined as Economic Areas by the Bureau of Economic Analysis, Department of Commerce ("EA licenses") and five blocks (composed of 15 channels in each block) in geographic areas defined by six "Regional Economic Area Groupings" ("Regional licenses"). The Commission made these channels available to all eligible applicants, and decided to resolve mutually exclusive applications for these channels through competitive bidding. The Commission provided a 10-year license term for Phase II licensees, and required Phase II licensees to meet five- and ten-year construction benchmarks.

12. The Commission permitted EA and Regional licensees to operate stations anywhere within their geographic borders, provided that their transmissions did not exceed a predicted field strength of 38 dBuV/m at their border, and provided that they protect the base stations of Phase I licensees in accordance with the existing co-channel separation criteria for 220 MHz stations.

13. The Commission also decided to allow all Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees to operate fixed and paging systems without the requirement that such use be on an ancillary basis to land mobile operations. The Commission further determined that it would be appropriate to permit Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees, to aggregate any of their contiguous 5 kHz channels and operate on channels wider than 5 kHz, so long as they comply with a prescribed spectrum efficiency standard.

14. Finally, the Commission established rules and procedures governing the auction of the Phase II 220 MHz Service licenses. Among other things, the Commission established installment

[20] We refer herein to licenses granted pursuant to this new framework as Phase II licenses. Licenses granted under the rules that existed prior to the adoption of the *220 MHz Third Report and Order* are referred to as Phase I licenses.

payment plans and bidding credits for small and very small businesses designed to assist such entities in overcoming economic barriers to their participation in the auction.

III. DISCUSSION

A. 220 MHz Third Report and Order Issues

15. Because one of the issues raised in connection with our reconsideration of the *220 MHz Second Report and Order* will be affected by our resolution of an issue raised on reconsideration of the *220 MHz Third Report and Order*, we will first consider the issues raised on reconsideration of the *220 MHz Third Report and Order*.

1. Protection of Phase I Licensee Operations

a. Background

16. In the *220 MHz Third Report and Order*, the Commission decided that Phase II EA and Regional licensees would be required to locate their base stations at least 120 km from the base stations of co-channel Phase I licensees, except that Phase II licensees would be permitted to locate their base stations less than 120 km from the base stations of co-channel Phase I licensees if they provide 10 dB protection to the predicted 38 dBuV/m (dBu) service contour of the base stations of the Phase I licensees.[21] This rule was derived from the rule adopted in the *220 MHz Report and Order*, which established a 120 km separation between co-channel, Phase I base stations, with shorter separations considered where licensees provide 10 dB protection to the predicted 38 dBu service contour[22] of co-channel base stations.[23]

[21] As indicated in the *220 MHz Third Report and Order*, Phase II licensees may meet this requirement by submitting a technical analysis demonstrating that the predicted 28 dBuV/m interfering contour of their base station does not overlap the predicted 38 dBuV/m service contour of the Phase I licensee's base station. *220 MHz Third Report and Order*, 12 FCC Rcd at 11025-26 (para. 173).

[22] Unless otherwise indicated, any references to a station's “contour” or “service contour” herein refers to that station's *predicted* F(50,50) service contour, as determined by Figure 10 of Section 73.699 of the Commission's Rules, 47 C.F.R. § 73.699.

[23] *See* Section 90.723(i) of the Commission's Rules, 47 C.F.R. § 90.723(i).

17. Six parties (AMTA, SMR, INTEK, PERS, PCIA, and SEA) seek reconsideration of this decision.[24] AMTA, SMR, INTEK, and PERS argue that Phase II licensees should be required, in locating their base stations, to afford greater protection to co-channel Phase I licensees by providing 10 dB protection to the predicted *28* dBu service contour of all co-channel Phase I base stations,[25] and SMR contends that the distance separation provided by Phase II licensees to co-channel Phase I licensees should be 170 km, rather than 120 km, except in instances where "unique terrain or other features justify a lesser distance separation."[26] PCIA and SEA do not oppose continued protection of the 38 dBu service contour, but assert that we should afford greater than 10 dB protection to that contour.

b. Adequacy of Current Protection Criteria

18. AMTA, in expressing views that are generally representative of those of other petitioners, argues that the decision made by the Commission in the *220 MHz Third Report and Order* to provide 10 dB protection to the 38 dBu contour of Phase I stations does "not provide adequate protection between Phase I and Phase II licensees."[27] AMTA contends that in their original comments on this issue,[28] all interested parties indicated that the 28 dBu contour was the

[24] In its Third Order Petition, AMTA, a trade association, indicates that its members include 220 MHz licensees. AMTA also indicates in its Third Order Petition that its 220 MHz Council "includes representatives of the vast majority of incumbent licensees, 220 MHz organizers, and narrowband 220 MHz equipment suppliers," and is "actively involved in all aspects of the 220 MHz marketplace." AMTA Third Order Petition at 2. SMR, in its Third Order Petition, indicates that it manages 85 constructed Phase I systems. SMR Third Order Petition at 2. INTEK is the parent company of Securicor Limited and Roamer One, Inc. Securicor Limited is a manufacturer of 220 MHz radio equipment. Roamer One, Inc., in comments filed on September 27, 1995, indicated that, at that time, it was "operating eighty-five (85) 220 MHz systems, and [had] shipped RF equipment or begun installation for approximately fifty-five (55) more systems." Roamer One, Inc., Comments at 2. In its Third Order Petition, INTEK indicates that Roamer One, Inc., is one of the leading operators and managers of 220 MHz land mobile radio systems. INTEK Third Order Petition at 2. PERS indicates that it has been involved in the construction of over one-hundred 220 MHz systems and that it represents a substantial number of incumbent licensees. PERS Third Order Comment at 3 (unpaginated). In its Third Order Petition, PCIA, a trade association, indicates that it has "participated in all phases of this 220 MHz proceeding." PCIA Third Order Petition at 1. SEA is a manufacturer of 220 MHz radio equipment. In its Third Order Petition, SEA indicates that it has been involved in the development of 5 kHz narrowband technology for land mobile radio users since 1981. SEA Third Order Petition at 2.

[25] USMC, which indicates in its Third Order Comments that it "believes that it manages more systems in the major markets on the East Coast than any other 220 MHz management company," concurs with AMTA's petition to increase co-channel protection for Phase I non-nationwide licensees. USMC Third Order Comments at 2.

[26] SMR Third Order Reply at 6-8.

[27] AMTA Third Order Petition at 4.

[28] AMTA is referring to the comments filed in response to the *Third Notice*.

appropriate protected service contour[29] for the 220 MHz service, claiming that "220 MHz systems were essentially outperforming the Commission's original coverage estimation by a significant degree in the real world."[30] AMTA indicates in its petition that 220 MHz customers "are currently operating throughout the 28 dBu reliable service areas,"[31] and that failure to adopt co-channel protection criteria based on a 28 dBu contour "denies Phase I 220 MHz licensees a quality of service comparable to that of competitive wireless systems."[32]

19. As a general matter, we would be concerned about taking any action that would have a negative impact on existing customers who are receiving service from a Commission licensee. We conclude, however, based upon our detailed analysis in the following sections, that retention of the existing 38 dBu protected contour will not adversely affect operations in the 220 MHz service. We base this conclusion on the lack of meaningful, valid evidence or justification in support of petitioners' claim that the 28 dBu contour is the field strength contour that should be protected in the 220 MHz service.

20. The matter of whether we should modify the Commission's protection criteria essentially turns on two issues. The first is whether we should protect the 28 dBu contour instead of the 38 dBu contour because the signal at the 28 dBu contour produces a quality of service deserving of protection. There are various references by petitioners, and by commenters in the previous proceeding, to the effect that "reliable service" is being provided at the 28 dBu contour.[33] Yet, beyond this limited, and basically anecdotal information, petitioners provide no other evidence to justify this contention. The second issue is whether, as some petitioners appear to suggest, 220 MHz signals invariably propagate farther than predicted by the Commission's Section 73.699 curves. However, petitioners provide no data to adequately support such a claim.

21. Petitioners also argue that because the Grade B contour for high VHF television stations is 8 dB lower than the Grade B contour for UHF television stations, the protected service contour for the 220 MHz service should be 12 dB lower than the 40 dBu protected service contour used for the 800 MHz and 900 MHz land mobile bands. However, as we discuss in greater detail in the following sections, operating frequency is not the sole criteria used to

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[29] The service contour to be protected may be referred to as the "protected service contour."

[30] AMTA Third Order Petition at 5.

[31] *Id.* at 8.

[32] *Id*. at 6.

[33] SMR Third Order Petition at 6; AMTA Third Order Petition at 6-7. INTEK claims that at the 24 dBu contour, customers are able to access a control channel. INTEK Third Order Petition at 4. *See also* INTEK Third Order Petition, App. A.

determine service contours, and the discussion by commenters themselves of the use of a 32 dBu contour in the cellular service is evidence of this fact. Additionally, the mathematical relationship between the Grade B contours of the UHF and high VHF television bands and the corresponding mathematical relationship between the protected service contour for the 220 MHz band and the 800 MHz and 900 MHz land mobile bands were known to potential 220 MHz licensees and manufacturers alike when the 220 MHz service rules were adopted in 1991. Yet, none of these parties sought reconsideration of the Commission's decision to employ a 38 dBu service criteria at that time.[34]

22. While we endeavor to provide appropriate protection for all licensees in all services licensed by the Commission, it is a fact that no protection criteria can guarantee that interference will not occur. In fact, in developing protection criteria between Phase II licensees the Commission recognized that interference is a possibility when it permitted co-channel Phase II licensees to place a 38 dBu signal at their common border. To address situations where interference subsequently occurs, the Commission indicated that Phase II licensees would have to resolve such occurrences between themselves.[35] In the event that instances of interference do occur between Phase I and Phase II licensees, we are confident that these licensees, too, will be able to resolve their differences.

23. AMTA states that if interference occurs between Phase I licensees, they will be able to "resolve whatever interference problems arise without FCC involvement." If this is the case and if, as AMTA suggests, interference will affect the operations of both Phase I and Phase II licensees, we see no reason why Phase I and Phase II licensees will not be similarly able to amicably resolve any interference matters that may arise. As AMTA points out, many of the Phase I licensees of today will be the Phase II licensees of tomorrow. And we believe that the unity that 220 MHz licensees have demonstrated in attempting to make the 220 MHz service

[34] Providing 10 dB protection to the 38 dBu service contour resulted in a 120 km distance separation between co-channel base stations, which was used to determine the assignment of Phase I 220 MHz licenses. Had the Commission provided 10 dB protection to the 28 dBu service contour instead, and adopted the maximum allowable power and antenna height parameters that were adopted in the *220 MHz Report and Order* (*i.e.*, 500 watts ERP and 150 meters HAAT), the minimum distance between co-channel stations would have been 170 km, and, as a result, fewer Phase I 220 MHz licenses would have been awarded from among the applications received in 1991.

[35] In theory, the likelihood of interference at an EA or Regional border between Phase II licensees is greater than the likelihood of interference between Phase I and Phase II stations. This is because at the EA or Regional border both Phase II licensees may provide the *same* 38 dBu signal, but Phase II licensees must provide 10 dB protection to the 38 dBu signal of the Phase I licensee. It is interesting to note, given this, that no petitions called for changes to the protection criteria for EA and Regional licensees or changes to the procedures under which interference disputes between such licensees are resolved. Moreover, none of the parties who argue for the use of 28 dBu service contour for Phase I licensees petitioned for changes to the Commission's rules to similarly limit Phase II signals to 28 dBu, rather than 38 dBu, at the border.

successful over the years[36] will carry over into any negotiations that they may undertake on interference issues and will lead to a successful resolution of such matters.

24. Additionally, AMTA makes the argument that we should modify the Commission's protection criteria because failure to do so "denies Phase I 220 MHz licensees a quality of service comparable to that of competitive wireless systems." The matter of whether a 28 dBu or 38 dBu service contour provides the same quality of service as the 40 dBu service contour for 800 MHz and 900 MHz service aside,[37] we have provided virtually the same service area for 220 MHz systems as the Commission did for 800 MHz and 900 MHz systems by our selection of operating parameters. Specifically, the maximum allowable power and antenna height for 800 MHz and 900 MHz stations is 1000 watts ERP and 305 meters HAAT, which produces a 40 dBu service contour at approximately 29 miles from the transmitter. The maximum allowable power and antenna height for 220 MHz stations is 500 watts ERP and 150 meters HAAT, which produces a 38 dBu service contour at approximately 28 miles from the transmitter. Thus, in defining the maximum allowable parameters in this manner for the 220 MHz service, the Commission provided 220 MHz licensees with about the same service area as 800 MHz and 900 MHz licensees.[38]

25. When the 220 MHz service was established in 1991, the Phase I applicant, and subsequently the Phase I licensee, expected, when it obtained its license and constructed its system, to have a system that provided service to its 38 dBu contour. If a particular 220 MHz licensee's system performs better than anticipated by providing quality signals beyond its 38 dBu contour,[39] then this would be a benefit for that licensee not anticipated in 1991. We do not believe, however, that the possibility of enhanced system performance in certain unique areas of the country is a basis for providing Phase I 220 MHz licensees with protection to a service area that is larger than the service area they had originally expected to obtain. The Commission's current rules provide 220 MHz licensees with exactly the protection they had expected to receive

[36] For example, the members of AMTA's 220 MHz Council, representing all elements of the 220 MHz service community, have, for many years, worked together to advance the 220 MHz service. *See* AMTA Third Order Petition at 2.

[37] *See* paras. 51-52, *infra*, for further discussion of this issue.

[38] There is precedent for this type of action. The Grade A and Grade B television contours, for example, vary among the three TV bands (*i.e.*, the Grade A and Grade B contours are 68 dBu and 47 dBu, respectively for Channels 2-6; 71 dBu and 56 dBu, respectively, for Channels 7-13; and 74 dBu and 64 dBu, respectively, for Channels 14-69). Yet, in order to enable television stations operating in these three bands to produce approximately the same service area, the Commission has established widely different maximum allowable parameters for stations in each band.

[39] *See, e.g.*, para. 46, *infra*.

when they applied for their licenses — *i.e.*, protection to a service area that is equivalent to the service area provided for the 800 MHz and 900 MHz land mobile radio services.[40]

26. In the 220 MHz service, we believe that we have provided appropriate protection for Phase I licensees and that it is not necessary to require Phase II licensees to provide the additional protection sought by petitioners. We conclude that to do so would force Phase II licensees to provide unnecessary protection to Phase I licensees, thereby diminishing Phase II licensees' coverage capabilities[41] and their ability to provide service to the public. We are confident that our existing protection criteria will permit us to license future, Phase II 220 MHz licensees and will enable these and Phase I licensees to operate in harmony.

27. Having presented this overview of the arguments regarding the adequacy of the current protection criteria, as well as our conclusions and rationale, we now turn to a more detailed discussion of technical information and arguments submitted by the petitioners.

c. Analysis of Technical Arguments

(1) Estimation of Propagation Characteristics

(a) Performance of 220 MHz Signal

28. AMTA claims that the Commission "may have underestimated the propagation characteristics of the band[,]" stating that "220 MHz signals simply talk considerably farther than those in the 800 MHz and 900 MHz bands from which the 220 MHz protection criteria seemingly were extrapolated," and that this difference is "not reflected adequately in the 2 dB difference between the benchmark 40 dBu contour at 800 MHz and 900 MHz and the 38 dBu contour adopted at 220 MHz."[42] AMTA notes that commenters have observed that in the "real world," 220 MHz systems perform better than originally estimated by the Commission,[43] that 220 MHz systems operating at 500 watts ERP and 500 feet HAAT will provide "a high quality signal to

[40] Of course, if a 220 MHz licensee or an 800 MHz or 900 MHz licensee elects to operate at a power or antenna height less than maximum allowable, then this is a decision the licensee chooses to make, and its resulting service area will be proportionally smaller than the maximum attainable (*i.e.*, less than 28 miles for the 220 MHz service, and less than 29 miles for the 800 and 900 MHz services).

[41] The 38 dBu contour of a maximum parameter Phase I station would extend approximately 28 miles. The 28 dBu contour of a maximum parameter Phase I station, however, would extend approximately 40 miles.

[42] AMTA Third Order Petition at 6-7.

[43] *Id.* at 5.

about 50 percent of the locations, 50 percent of the time throughout a 28 dBu contour,"[44] and that members of the 220 MHz service industry will provide data that will "confirm that the actual reliable service area of a 220 MHz system is represented by a 28 dBu, not a 38 dBu, contour."[45]

29. In the following sections, we discuss the showings provided by various commenters. With regard to its statement that the Commission may have underestimated the propagation characteristics of the 220 MHz band, AMTA appears to be suggesting that 220 MHz signals propagate farther than the Commission's R-6602 curves predict.[46] However, as we discuss in later sections, neither AMTA nor any other commenters provide evidence to adequately support such a claim.

30. Furthermore, AMTA's observation that in the "real world," 220 MHz signals *perform* better than originally expected, and its claim that "high quality" 220 MHz signals are present at about 50 percent of the locations, 50 percent of the time throughout a 28 dBu contour,[47] are similarly unsupported by any study, analysis, measurements, or data that associate the sound produced by 220 MHz receivers operating at the 28 dBu contour, or any other contour for that

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[44] *Id.* at 6.

[45] *Id.* Presumably, AMTA, in making this observation, is referring to data that it anticipated would be furnished by other commenters in support of AMTA's request for the adoption of a 28 dBu service contour. AMTA itself did not provide any such data.

[46] The R-6602 curves are found in Section 73.699 of the Commission's Rules, 47 C.F.R. § 73.699. They were developed in the Commission's report "R-6602, Development of VHF and UHF Propagation Curves for TV and FM Broadcasting," issued Sept. 7, 1966. The "F(50,50)" curves in Section 73.699 predict the location at which a transmitter, operating on a given frequency and at a given power and antenna height, will produce a particular signal strength 50 percent of the time and at 50 percent of locations. Thus, for example, the curves predict that the location of the F(50,50) 38 dBu signal for a 500 watt ERP/150 meter HAAT station is approximately 45 km from the transmitter; and that the location of the F(50,50) 28 dBu signal for a 500 watt ERP/150 meter HAAT station is approximately 65 km from the transmitter.

[47] AMTA states that systems operating at 500 watts ERP and 500 feet HAAT will provide a high quality signal to about 50 percent of the locations, 50 percent of the time, throughout the 28 dBu contour. The provision of a particular signal quality, "high quality" or otherwise, within a given contour, however, is independent of the particular power and antenna height of the station transmitter. Because service contours expand and contract as a function of power and antenna height, the 28 dBu service contour of a station operating at less than 500 watts ERP and 500 feet HAAT would simply be smaller in radius than the 28 dBu contour of a station operating *at* 500 watts ERP and 500 feet HAAT. If it is AMTA's assertion that a high quality signal is present about 50 percent of the locations, 50 percent of the time throughout a 28 dBu contour, this would be the case regardless of the station's operating parameters. Presumably, AMTA is simply using a station operating at 500 watts ERP and 500 feet HAAT as an *example* of one that provides a "high quality" signal, recognizing that it is not necessary for the station to be operating at such parameters in order to provide such a signal.

matter, to any particular service quality — *e.g.*, "high quality," "reliable," or otherwise. AMTA merely states that "customers are operating throughout the 28 dBu reliable service areas."[48]

31. The fact that customers may be "operating" throughout the area encompassed by a 28 dBu contour, however, is not particularly meaningful for two reasons. First, the fact that customers are capable of "operating" in particular areas could simply mean that they are receiving transmissions in those areas that are minimally acceptable for communication. In establishing protection criteria for the land mobile radio services, our goal in the past has been to protect quality signals from interference.[49] To protect minimally acceptable or minimally intelligible signals from interference would result in extremely, and unnecessarily large distances between co-channel stations, and we have not nor would not provide this type of interference protection. Second, in the "real world," terrain can vary from flat, to hilly, to mountainous. As a result, it is quite possible to receive signals of varying field strengths at a given distance from a transmitter (*e.g.*, a mobile station situated at the top of a hill would receive a much stronger signal than a nearby mobile station at the bottom of a hill); and we have no way of knowing what type of terrain may have produced the "reliable service" claimed by AMTA.[50]

32. Moreover, AMTA does not provide any details as to how many customers made these observations, how frequently the observations were made, what percentage of the estimated number of 20,000 existing 220 MHz customers[51] made these observations, whether the customers making these observations might be operating in an area of unusual and favorable terrain that might cause received signal strengths to differ markedly from predicted signal strengths, or what method was used to gather the data cited by AMTA. Finally, AMTA claims that 220 MHz signals "simply talk considerably farther than those in the 800 MHz and 900 MHz bands . . . ." However, AMTA does not explain or elaborate upon this statement; and it is therefore difficult, if not impossible, for us to address the merits of its assertion.

33. INTEK contends that in the *Third Notice* proceeding, the 38 dBu protection standard was "universally opposed by the land mobile industry." It supports AMTA's position, indicating that, based on "real-world operational data for Phase I 220 MHz systems that is now available,"

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[48] AMTA Third Order Petition at 8.

[49] *220 MHz Third Report and Order*, 12 FCC Rcd at 11027-28 (paras. 176-177).

[50] AMTA's use of the term "reliable service" is not new to this proceeding. In their comments to the *Third Notice* as well as their petitions for reconsideration, commenters suggested that we provide protection to contours other than the 38 dBu contour because, they claim, "reliable" service is being received at such contours. Neither AMTA nor these commenters, however, have defined the term "reliable service," nor stated what criteria they use to determine a "reliable" 220 MHz signal.

[51] *See* AMTA Third Order Petition at 7.

the Commission should adopt the 28 dBu service contour.[52] INTEK also claims that the use of the 38 dBu service contour will "result in harmful interference between Phase I and Phase II licensees, a loss of existing service area for Phase I systems, and resulting `dead spots' between Phase I and Phase II operations."[53] It therefore concludes that, if left unchanged, the Commission's protection standards "will lead to harmful interference between Phase I and Phase II licensees, diminishing the potential use of the band and devaluating its worth in the marketplace."[54]

34. In support of its position, INTEK provides an engineering analysis, based on the operation of an existing 220 MHz system located in the Los Angeles, California area, in an attempt to show that "reliable service . . . is available up to the system's 24 dBuV/m contour."[55] Specifically, INTEK provides computer-generated maps indicating the expected locations of 38 dBu, 28 dBu, and 24 dBu signals transmitted from a base station situated at the top of Mount Lukens (overlooking Los Angeles).[56] INTEK claims that "the actual coverage areas wherein no less than 50% of the mobile units can access the control channel at least 50% of the time is known to us and our customers as that depicted by the 24 dBuV/m map."[57] We do not believe that this statement by INTEK represents sufficient engineering analysis to justify re-evaluation of the existing 38 dBu protected service contour. At a minimum, the circumstance of accessing a control channel is not a condition that we would use to help us determine an appropriate signal contour to be protected because it does not correlate to any particular service quality. Moreover, we are uncertain as to the relationship between accessing a control channel and INTEK's concept of "reliable service." Thus, we do not believe that INTEK's pictorial representations of the Los Angeles areas where various signal levels are predicted to be received constitute a sufficient showing to justify its claim that we should modify the existing 38 dBu service contour for the 220 MHz service.

35. SMR claims that the Commission's "initial selection of the 38 dBu contour as the best indicator of actual signal strength in the 220 MHz service appears to have been only a best guess

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[52] INTEK Third Order Petition at 4.

[53] *Id.*

[54] *Id.* at 5.

[55] *Id.* at 4.

[56] To be precise, each of the maps employs the Longley-Rice terrain-based, signal prediction model to show the locations where particular field strengths (*i.e.*, ≥ 38 dBu, ≥ 28 dBu or ≥ 24 dBu) are predicted to exist. INTEK Third Order Petition, Technical Showing at 2 (unpaginated), App. A-C.

[57] *Id.*, Technical Showing at 1 (unpaginated).

estimate with no substantiating technical analysis or actual operating data," and that we should "change this factor now after having the benefit of actual data accumulated by operating systems and adopt a 28 dBu protected contour."[58] In response to this argument, we note that although the Commission has licensed 3,800 Phase I, non-nationwide base stations,[59] we have little data in the record attempting to justify the adoption of a 28 dBu service contour for the 220 MHz service. And, as discussed herein, we do not believe this limited amount of data has successfully justified the adoption of a 28 dBu service contour.

(b) SMR Comments and Vega Report

36. As part of its reply comments, SMR submits what it describes as an "independent technical analysis" by The Richard L. Vega Group, Inc.[60] "in order to provide the Commission with even more technical data to ensure that its decision is as informed as possible."[61] The Vega Report agrees with others who claim that we should use a 28 dBu, rather than a 38 dBu, protected service contour for the 220 MHz band,[62] and contends that a mere 2 dB reduction between the 40 dBu service contour used for the 800 MHz and 900 MHz bands and the 38 dBu service contour for the 220 MHz band is insufficient because of the "distinct frequency trends and the propagation differences between the two services."[63] The Report argues that the Commission's use of a "64 dBu protected contour" for the UHF television band (Channels 14-69), and a "56 dBu protected signal" for the high VHF television band (Channels 7-13) "establishes a benchmark *8 dB reduction* to the contour protection for stations operating in frequencies up to 600 MHz lower than in the UHF band to account for the superior propagation characteristics in the lower bands."[64]

37. We do not agree with this argument for the following reasons. First, when the Commission determined the Grade B contour for UHF and VHF stations — the 64 dBu and 56 dBu figures referenced by the Vega Report — in the 1951 rulemaking in Docket Nos. 8736,

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[58] SMR Third Order Petition at 7.

[59] These licenses were authorized in 1993.

[60] We cite this submission as the "Vega Report" or the "Report."

[61] SMR Third Order Reply at 4. The data provided in the Vega Report is the only measured data provided by any commenter in this reconsideration proceeding.

[62] Vega Report at 1-7.

[63] *Id.* at 4.

[64] *Id.* (emphasis in original).

8975, 8976, and 9175 (Television Broadcast Service), these calculations were based on a variety of factors.[65] Specifically, the Grade A and Grade B contours for television are the locations at which an acceptable television picture quality would be expected to be received at a given percentage of locations and time. When the contours were developed in 1951, the Grade A contour was meant to define the location in an urban environment where a picture of acceptable quality would be expected to be received at 70 percent of locations and 90 percent of the time, and the Grade B contour was meant to define the location in a rural environment where a picture of acceptable quality would be expected to be received at 50 percent of locations and 90 percent of the time.

38. In determining the Grade A and Grade B contour, several factors had to be taken into consideration. For example, it was determined that a signal-to-noise ratio of 30 dB was needed to produce a picture of acceptable quality, and this applied to televisions operating in all three frequency bands — Channels 14-83[66] (UHF), Channels 7-13 (high VHF), and Channels 2-6 (low VHF). In addition, there were other factors that contributed to the level of the signal received, such as the antenna dipole factor, the gain of the television receive antenna, and the transmission line loss between the antenna (presumed to be 30 feet above ground) and the television. It was also necessary to take into consideration factors contributing to noise experienced at the receiver, including receiver noise — *i.e.*, thermal noise plus the receiver noise figure — and man-made noise. In addition, it was necessary to take into account the fact that the Grade A and Grade B contours were meant to indicate the existence of the signal level 90 percent of the time and either 50 percent of the locations (for Grade B) or 70 percent of the locations (for Grade A), with adjustments having to be made for these factors.

39. Thus, certain factors contributing to the determination of the Grade A and Grade B contours were based on known electromagnetic principles (*e.g.*, the antenna dipole factor), others were based on the quality of television receivers at the time (*e.g.*, the determination of the signal level needed to produce a picture of acceptable quality, the noise figure of the television receiver), others were based on mathematical models (*e.g.*, "time fading" and "location variability"), and still others were based on assumptions about the configuration of the television receiver and antenna (*e.g.*, antenna gain and line loss) and the electromagnetic environment surrounding the television receiver and antenna (*e.g.*, the man-made noise factor). By deciding on what it considered to be the appropriate values for each of these factors, the Commission was able to determine the strength of a television signal that would produce picture of acceptable quality, for all three frequency bands.

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[65] 16 Fed. Reg. 3072 (Apr. 7, 1951).

[66] In 1951, the UHF television band extended to Channel 83.

40. The Vega Report points to the 8 dB difference in field strength of the Grade B contour for Channels 7-13 and Channels 14-69, and suggests that this is evidence that because Channel 14-69 and Channel 7-13 frequencies parallel the 800 MHz and 900 MHz and 220 MHz frequencies, the protected service contour for 220 MHz should similarly be much more than 2 dB below the protected service contour for the 800 MHz and 900 MHz band.[67] As indicated above, however, the determination of the television contours for Channels 14-69 and Channels 7-13 is a function of a variety of factors, some of which were unique to the television systems of the early 1950s. Thus, we would not consider the existence of different Grade B television field strength contours for different television bands to be the sole grounds for the adoption of similar field strength differences for land mobile system service contours.

41. Further, even if we were to assume *arguendo* that the fairly substantial difference between the Grade B contour for Channels 14-69 versus Channels 7-13 is evidence that we should employ a similar field strength difference for 220 MHz versus 800 MHz and 900 MHz, it is not entirely clear why we would choose to employ the Grade B, rather than the Grade A contour, for this purpose.[68] And significantly, the difference between the Grade A contour for television Channels 14-69 versus Channels 7-13 is only 3 dB, which is very close to the 2 dB difference between the 40 dBu service contour for the 800 and 900 MHz bands, and the 38 dBu service contour of the 220 MHz band.

[67] Specifically, the Vega Report asserts that we "should apply an additional 10 dB reduction to the 220 MHz protected service contour to account for the 600 MHz difference between the 220 MHz band and the 800/900 MHz bands and the associated differences in propagation." Vega Report at 4.

[68] We note that the distance of the 38 dBu contour of a maximum parameter 220 MHz station (*i.e.*, 28 miles) is much closer to the distance of the Grade A contour of a maximum parameter Channel 7-13 television station (*i.e.*, 52 miles) than it is to the distance of the Grade B contour of a maximum parameter Channel 7-13 television station (*i.e.*, 75 miles).

42. Thus, given the fact that:

(1) the simple, mathematical difference in frequency between the different TV bands was not the only factor used to determine the Grade A and Grade B contours for the different TV bands;

(2) the factors that went into determining these contours were, for the most part, unique to television receivers and the television receiver system and environment; and

(3) even if we were to consider the television contours as a basis for determining appropriate service contours for land mobile systems, it is not clear that the Grade B contours should be used for this purpose,

we conclude that it would not be appropriate to adopt a 28 dBu protected service contour for the 220 MHz service solely because the Grade B contour for Channels 7-13 is 8 dB below the Grade B contour for Channels 14-69.

43. The Vega Report also argues that the Commission's development of a protected service contour in the cellular service "provides additional support for a modification to the 220 MHz protected contour."[69] The Report observes that "the `outer bounds' of [cellular] service was being provided at the 32 dBu contour, which was significantly lower than the 40 dBu protected contour employed in the 800/900 MHz services, even though systems in the 800/900 MHz service operate in virtually the same frequency band as cellular."[70] The Vega Report claims that "a more appropriate and consistent accounting for the differences between the [800/900 MHz and 220 MHz] frequency bands support [*sic*] a reduction from the 32 dBu protected cellular contour of at least 4 dB, resulting in a 28 dBu protected contour for the 220 MHz service with a corresponding minimum 10 dB C/I ratio to account for the frequency difference."[71]

44. The references in the Vega Report and by SMR[72] to recent actions in the cellular service and their argument that the determination of protected service contours is frequency-dependent are difficult to reconcile. For example, the Vega Report states that, because we are employing a 32 dBu contour for cellular, we should provide a "reduction from the 32 dBu protected cellular contour of at least 4 dB, resulting in a 28 dBu protected contour for the 220

[69] Vega Report at 5.

[70] *Id.*

[71] *Id.*

[72] SMR Third Order Reply at 4-6.

MHz service . . . ." But the Vega Report provides no calculations that produce such a 4 dB figure. The Report also acknowledges that the 32 dBu contour used for cellular is significantly lower than the 40 dBu protected contour employed for the 800 MHz and 900 MHz land mobile services — services that are in the same part of the spectrum as cellular. SMR's argument, based upon the Vega Report, that we should expand the protected service contour for the 220 MHz band from 38 dBu to 28 dBu because the determination of this contour is frequency-dependent and its argument that the Commission employs a 32 dBu contour for cellular while employing a 40 dBu contour for the land mobile services operating essentially in the same frequency band would appear to be inconsistent.

45. In support of the contention that we should provide for what the Vega Report claims is a "more realistic protected service area," the Report provides signal strength measurements produced by "an existing 220 MHz facility."[73] The station transmitter operates at 5 watts ERP, at a height of 981 meters above mean sea level (AMSL). Data was collected in four different azimuths (0^0, 225^0, 270^0, and 315^0) and at three distances from the transmitter (16, 32, and 48 miles).[74] The following data was collected:

Miles	Measurements	Directions
16	-83 dBm, -80 dBm, -80 dBm, -85 dBm	0^0, 225^0, 270^0, 315^0
32	-90 dBm, -85 dBm, -85 dBm, -95 dBm	0^0, 225^0, 270^0, 315^0
48	-100 dBm, -93 dBm, -88 dBm	0^0, 225^0, 270^0

In referring to the data provided in the Vega Report, SMR states that "as can be seen by the tabulated results . . . the readings at the 28 dBu contour point consistently showed reliable service."[75]

46. We have the following observations with regard to this data. First, we note that the particular transmitter site chosen for the Vega Report's study is situated at Tiger Mountain, which is located about 20 miles southeast of Seattle, Washington. In Section 90.621(b)(1) and (b)(3) of the Commission's Rules, the Commission identifies 19 mountains in the Seattle area, including

[73] Vega Report at 6.

[74] *See id*. at Exhibit 3. According to the Report, data at azimuths 45^0, 90^0, 135^0, and 180^0 were unavailable due to mountainous terrain. The Report also indicates that data in the 315^0 direction at the 48-mile location was unavailable because this location was over water.

[75] SMR Third Order Reply at 6.

Tiger Mountain, and four mountains in the Los Angeles area,[76] and indicates that co-channel base stations located in the vicinity of base stations transmitting from these mountaintops are deserving of special protection. This special protection is necessary because signals from base stations at these locations will propagate farther than predicted by the Section 73.699 curves.[77] Based on our knowledge of the particular terrain surrounding Tiger Mountain, we can state with confidence that any signal measurements taken in the low-lying areas to the north and west of the mountain would be greater than predicted by the Section 73.699 curves.[78] As indicated in the table above, the only data shown in the Vega Report are measurements taken in the northerly and westerly directions from Tiger Mountain (*i.e.*, at the 0º, 315º, 270º, and 225º azimuths).

47. Another concern in evaluating this data is that the Vega Report does not indicate whether each data element represents a single measurement taken at a single location (*e.g.*, one measurement taken at one location to represent the 0º azimuth data element at 16 miles, one measurement taken at one location to represent the 225º azimuth data element at 32 miles, *etc.*) or whether each data element represents an average of several measurements taken in the same general area. If it is the former, the measurements may not provide an accurate representation of the median field strengths received at those locations.[79]

48. The presumed purpose of the data provided by the Vega Report is to demonstrate that signals transmitted from this base station site propagate farther that predicted by our Section 73.699 curves.[80] However, the Vega Report does not provide an analysis of the data to support

[76] One of these mountains is Mt. Lukens, which was the location of the 220 MHz base station used by INTEK in its analysis. *See* para. 34, *supra*.

[77] Section 90.621(2) also provides special co-channel separation provisions for stations located in Northern California.

[78] Also based on our knowledge of the terrain in the area around Tiger Mountain, we can state with confidence that any signal measurements taken in the mountainous areas to the east and southeast of Tiger Mountain would be significantly less than predicted by the Section 73.699 curves.

[79] This is due to the fact that the value of a signal strength can vary significantly over very short distances, especially in areas of unusual terrain, or where there is blockage from foliage or other obstructions. The determination of the curves found in Section 73.699 of the Commission's Rules, for example, required extensive field measurements in order to account for such varying types of topography and environment. Relatedly, in Section 73.686 of the Commission's Rules, we prescribe procedures for the measurement of television signals. For example, we generally require that field strength measurements of television signals be taken over a “mobile run” of at least 100 feet, with signals continuously measured on a chart recorder over the length of the run; and under certain conditions, we may also require a “cluster” of five spot measurements, with four of the measurements taken within 200 feet of the first. *See* Section 73.686(b)(2) of the Commission's Rules, 47 C.F.R. § 73.686(b)(2).

[80] If this were the case, it could be considered justification for revising our determination of the location of predicted field strength contours for the 220 MHz service.

such a claim. Nor does SMR explain its statement, in referring to the data provided in the Vega Report, that "as can be seen by the tabulated results . . . the readings at the 28 dBu contour point consistently showed reliable service." In the absence of such analysis or explanation, and because of our concerns about the data that was collected (*see* paras. 46-47, *supra*) we could not consider use of this data to support any recalculation or reevaluation of the 220 MHz service contour.

49. SMR also asserts that Commission's decision in the *220 MHz Third Report and Order* to protect the 38 dBu contour of incumbent licensees is "inconsistent with actions taken with respect to incumbent licensees in substantially similar radio services."[81] In support of this contention, SMR discusses previous Commission actions — such as the decision to employ a 32 dBu contour in determining a cellular licensee's Cellular Geographic Service Area,[82] and the decision to modify the protection criteria for Multipoint Distribution Service stations[83] — and claims that because of the Commission's actions in these decisions, we must take similar actions in the 220 MHz service.

50. We do not disagree with SMR's observation that the Commission has in the past made adjustments to the contours that it has employed in other services. The Commission has done so in instances where it believed such adjustments were appropriate and justified. As we indicate throughout this discussion, however, we do not believe that the petitioners and commenters in this proceeding have provided adequate support for their various requests to modify the service contour for the 220 MHz service.

[81] SMR Third Order Petition at 4.

[82] *See* Amendment of Part 22 of the Commission's Rules To Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and To Modify Other Cellular Rules, CC Docket No. 90-6, Second Report and Order, 7 FCC Rcd 2449 (1992).

[83] *See* Amendment of Parts 21, 43, 74, 78 and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting Private Operational Fixed Microwave Service, Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service, Second Order on Reconsideration, Gen. Docket Nos. 90-54 and 80-113, 10 FCC Rcd 7074 (1995).

(c) TCG Report and PERS Comments

51. INTEK, in its reply comments, furnishes a report by the Trott Communications Group (TCG Report)[84] designed to "analyze the effects of both the FCC's existing co-channel protection rules and those proposed by INTEK and other parties."[85] The TCG Report, in attempting to justify the use of the 28 dBu protected service contour for the 220 MHz service, observes that the receiver input power for a 28 dBu field strength at 220 MHz is roughly equivalent to the receiver input power for a 40 dBu field strength at 855 MHz,[86] and therefore concludes that "at the service area boundary of 40 dBu at 855 MHz, the same level of performance can be expected as at a service area boundary of 28 dBu at 220 MHz."[87] The TCG Report also provides a pictorial view of the predicted 28 dBu signal of a Roamer One, Inc.[88] base station in the St. Louis, Missouri, area, calculated using the station's operating parameters and the Section 73.699 curves (Figure 10), and overlays a "propagation plot" using the same operating parameters and the Okumura/Hata Extended propagation model. The TCG Report observes that "the 28 dBu service contour closely approximates the actual coverage area expected from this site at these operational parameters."[89] Based on these showings, the TCG Report concludes that the protected service area for 220 MHz stations should be defined at the 28 dBu contour.

52. The mathematical calculations in the TCG Report indicate a similarity between the received power of a 28 dBu signal at 220 MHz and a 40 dBu signal at 855 MHz. However, as we have discussed in connection with the Grade A and Grade B contours,[90] there are a number of factors, in addition to operating frequency, that must be taken into account in determining a system's appropriate service contour. It is also interesting to note that when the 120 km separation distance, along with the 38 dBu protection criteria, were developed by the Commission in 1991 in the *220 MHz Report and Order*, petitioners could have sought reconsideration of those decisions based on this plausible "mathematical" argument (as presented in the TCG Report). In the absence of "real world" data from 220 MHz systems (because such systems were not yet in

[84] We cite this submission as the "TCG Report."

[85] INTEK Third Order Reply at 3.

[86] This frequency approximates the mean frequency of 800 MHz and 900 MHz systems.

[87] TCG Report at 1-2 (unpaginated).

[88] INTEK is the parent company of Roamer One, Inc. *See* note 24, *supra*.

[89] TCG Report at 2 (unpaginated).

[90] *See* paras. 37-42, *supra*.

use at that time) petitioners could have used this argument as being an appropriate criterion for distinguishing the 220 MHz band from the 800 MHz and 900 MHz bands. Yet, they did not.[91]

53. As to the claim in the TCG Report that the "28 dBu service contour closely approximates the actual coverage area expected" at the St. Louis base station site, we observe that the predicted 28 dBu contour based on the Section 73.699 curves is approximately 27 miles in radius. The predicted plot shown of the 28 dBu signal using the Okumura/Hata model, which takes into account the terrain surrounding the base station, indicates a non-circular coverage area that, on average, extends about 27 miles from the base station site. We do not see the connection between this showing, which indicates that the predicted coverage of the station based on the actual terrain surrounding the station is similar to the predicted coverage of the station based on the Section 73.699 curves, and the TCG Report's call for the adoption of a 28 dBu protected service contour. In our view, the showing only confirms the validity of the field strength curves in Section 73.699 and does not provide justification for modifying the Commission's existing 38 dBu service contour for the 220 MHz service.

54. PERS asks that we "adopt co-channel separation that properly protects the performance of all [Phase I and Phase II] systems based on the real-world operation of these systems,"[92] and provides a showing to support its argument that we revisit our Phase I/Phase II separation criteria. Specifically, PERS provides three figures that show predicted field strength values in the areas surrounding three different base station sites in the New England area using an unspecified terrain model.[93] Additional figures show the predicted 38 dBu and 28 dBu service contours in the vicinity of these stations, calculated using the Section 73.699 curves.

55. PERS states that the "28 dBu contour comes the closest to the actual real-world coverage in the actual propagation study . . . ."[94] However, PERS's showings only demonstrate that in areas surrounding a base station where the terrain lends itself to greater signal propagation, the 28 dBu signal level as shown by PERS extends beyond the predicted 28 dBu contour as determined by the Section 73.699 curves; while in areas where the terrain lends itself to weaker signal propagation, the 28 dBu signal level as shown by PERS extends less than the distance of the predicted 28 dBu contour as determined by the Section 73.699 curves. As we previously

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[91] *See also* note 34, *supra*.

[92] PERS Third Order Comments at 3 (unpaginated).

[93] *Id.* at Exhibits 1A, 1B, and 1C. PERS indicates that these figures provide "a propagation study done using formulations refined and verified over the past three years." *Id.* at 4 (unpaginated).

[94] *Id.* at 4 (unpaginated).

concluded with regard to the TCG Report, we do not see how this type of showing justifies modification of the existing 38 dBu service contour for the 220 MHz service.

(2) Use of Single Sideband Technology

56. AMTA contends that the 220 MHz protection criteria should be changed because of the use by Phase I licensees of single sideband (SSB), rather than FM technology.[95] In particular, AMTA asserts that mobile stations are more likely to suffer from interference due to their use of SSB instead of FM, because FM, with its "capture" effect, enables mobile stations to hear only the desired signal "as long as the undesired signal is at least 10 dB down," while mobile stations using SSB "hear both signals in areas of overlap, irrespective of the relative signal strength of the signals."[96] Petitioners, however, beyond making these observations, do not explain why the use of SSB technology by licensees in the 220 MHz band is reason for changing the 220 MHz service contour from 38 dBu to 28 dBu. In the absence of such explanations, we conclude that petitioners' observations do not provide a sufficient basis for modification of the Commission's protection criteria.

(3) Minimum Co-Channel Distance

57. In its reply comments, SMR asserts that "in order to provide 10 dBu [*sic*] interference protection to the Phase I licensee's 28 dBu contour" we should provide a minimum co-channel distance of 170 km unless "unique terrain or other features justify a lesser distance separation," in which case the Phase II licensee "should be permitted to demonstrate that it could provide 10 dB protection to the 28 dBu contour of the Phase I licensee at the lesser distance."[97]

58. The Commission's rules call for a "standard" 120 km distance separation between co-channel 220 MHz stations, but allow Phase II licensees to afford less than 120 km protection to Phase I stations if they provide 10 dB protection to the 38 dBu contour of the Phase I stations. The 120 km distance results when both the Phase I and Phase II stations are operating at

[95] AMTA Third Order Petition at 7.

[96] *Id.* PERS also notes that "the prevalent use of single-sideband rather than conventional FM technology to meet the technical requirements the Commission established for its 220-222 MHz allocation demands greater co-channel protection to achieve the appropriate service level," and that "the mere fact that sideband operation does not provide the receiver capture effect of FM should underscore the need for further consideration." PERS Third Order Comments at 4 (unpaginated).

[97] SMR Third Order Reply at 7-8.

maximum facilities (*i.e.*, 500 watts ERP and 150 meters HAAT).[98] The provision that allows Phase II licensees to provide 10 dB protection to the 38 dBu contour of the Phase I station[99] enables Phase II licensees to take into consideration the fact that their station or the Phase I station (or both) may be operating at less than maximum facilities, and therefore enables these licensees to locate their stations at a distance less than 120 km from the Phase I station.[100]

59. AMTA, INTEK, SMR, and PERS, in their petitions, call for a change to this rule to require Phase II licensees to provide 10 dB protection to the 28 dBu contour of the Phase I licensee. If such a rule were adopted, the 120 km distance separation, which was based on the provision of 10 dB protection to a 38 dBu contour using the maximum allowable power and antenna height for the 220 MHz service, would have to be recalculated to reflect a separation based on 10 dB protection to a 28 dBu contour. Assuming use of the same maximum allowable power and antenna height, this separation would be the 170 km distance that SMR proposes. It is not clear, however, from SMR's reply comments whether it is simply proposing that, in conjunction with a change of the protected contour from 38 dBu to 28 dBu, we should: (1) concurrently change the "standard" separation distance from 120 km to 170 km; or (2) provide for a *uniform* 170 km separation (regardless of either licensee's power level or antenna height) — with distances of less than 170 km allowed only in areas that contain "unique terrain or other features."

60. The former interpretation of SMR's petition, *i.e.*, changing the standard separation distance, would be a logical consequence if we decided to change the protected contour for Phase I stations from 38 dBu to 28 dBu.[101] The latter interpretation would require a Phase II licensee operating at somewhat less than maximum allowable power and antenna height to protect a Phase I licensee as if both licensees were operating *at* the maximum allowable parameters.[102] If SMR is

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[98] Using the Section 73.699 curves, the distance of the 38 dBu F(50,50) contour of a protected station operating at 500 watts ERP and 150 meters is calculated to be 45 km, and the distance of the 28 dBu F(50,10) contour of an interfering station operating at 500 watts ERP and 150 meters is calculated to be 75 km. These figures, when added together, produce the 120 km co-channel separation distance.

[99] *See* Section 90.763(b)(1) of the Commission's Rules, 47 C.F.R. § 90.763(b)(1).

[100] This is accomplished by employing the Section 73.699 curves (Figures 10 and 10a) to calculate the appropriate separation distance, based on the use of the 38 dBu F(50,50) contour for the Phase I station and the 28 dBu F(50,10) contour for the Phase II station.

[101] Because we have decided not to change the protected contour for Phase I stations, we have not changed the standard separation distance between Phase I and Phase II stations.

[102] For example, an 18 dBu interfering contour for a Phase II station operating at maximum parameters (*i.e.*, 500 watts ERP/150 meters HAAT) is 104 km, but an 18 dBu interfering contour for a Phase II station operating at 100 watts ERP/50 meters HAAT is only 64 km. Thus, under SMR's apparent proposal, a Phase II licensee operating at these

proposing that Phase II licensees uniformly provide 170 km protection to Phase I licensees, except in areas of "unique terrain or other features," it does not provide an explanation for requesting this degree of protection.

(4) Provision of Greater Than 10 dB Protection

61. PCIA and SEA contend that in order to adequately protect Phase I stations, we should provide greater than 10 dB protection to the existing service contour. PCIA states that, for the 800 MHz and 900 MHz services, the Commission agreed that "there needed to be a minimum of 18 dB signal difference between the desired and undesired signals for `routine' short-spacing in order to prevent co-channel interference," but that in this proceeding the Commission "has decided to go back to the 10 dB signal difference, thereby going back to a rule which the previously found did not adequately protect co-channel licensees."[103] PCIA asserts that "there is no valid rationale to treat incumbent 220 MHz licensees differently from incumbent 800 MHz licensees."[104] PCIA also argues that our decision was adopted "even though licensees and manufacturers have demonstrated that 220 MHz systems `in the real world' cover areas in excess of the Commission's initial prediction."

62. At the outset, we emphasize that since the initiation of this proceeding with the *Third Notice*, neither the Commission nor any commenters had, until now, suggested that the current 10 dB protection criteria be increased. Regarding the merits of PCIA's arguments, we first question PCIA's claim that the Commission made its decision to employ a 10 dB protection for 220 MHz licensees in the face of demonstrations that 220 MHz systems cover areas beyond the Commission's initial prediction. At the time the Commission made that decision in the 220 MHz Third Report and Order, there were, in fact, claims of coverage beyond what was predicted, but no evidence or demonstrations of such coverage were provided; and as discussed elsewhere in this Order, we do not believe that petitioners have provided adequate justification in this proceeding for claims of greater coverage. Additionally, we note that PCIA provides no discussion or technical analysis in support of its contention that we provide greater than 10 dB protection for Phase I licensees. In the absence of such discussion, we cannot reasonably consider the adoption of PCIA's proposal, and we reject its recommendation to increase the protection criteria for 220 MHz stations.

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lesser parameters and attempting to provide 10 dB protection to the 28 dBu contour of a Phase I licensee would have to locate its base station 40 km farther from the Phase I base station than necessary. And if the *Phase I* licensee, too, was operating at less than maximum parameters, the Phase II licensee would have to locate its base station an even greater distance from the Phase I base station than necessary.

[103] PCIA Third Order Petition at 3.

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

63. SEA, in its comments, notes that employing an 18 dB protection ratio to a 38 dBu service contour would increase the "nominal Phase I-to-Phase II co-channel separation distance to about 140 km."[105] It therefore recommends that 140 km "be the minimum geographic separation between co-channel stations."[106] SEA, however, does not provide any discussion or rationale in support of its position,[107] and we thus reject its recommendation, as well.

(5) Protection of Phase I Systems

64. With regard to the general issue of co-channel interference, AMTA believes that such interference affects the operation of both Phase I and Phase II stations, and therefore believes that "there is a commonality of interest between Phase I and Phase II operators in seeing that the FCC adopts co-channel separation criteria that properly protect the performance of all systems."[108]

65. With regard to co-channel interference between Phase I systems, AMTA notes that, while it believes that technical considerations support "an improved co-channel separation standard" between such systems, because Phase I stations are operating pursuant to the existing protection criteria, it does not recommend any change to the "Phase I to Phase I protection requirements." Rather, it states that the industry "hopes to resolve whatever [Phase I to Phase I] interference problems [that] arise without FCC involvement."[109]

66. AMTA also observes that "the likelihood of [resolving Phase I to Phase I interference problems] is significantly increased because both parties will be subject to identical regulatory obligations and entitled to identical regulatory protection," remarking that "unlike the Phase I/II separation criteria adopted in the Order, neither party will have superior regulatory rights."[110]

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[105] SEA Third Order Comments at 13.

[106] *Id*. Employing the Section 73.699 curves, the separation between a Phase II station providing 10 dB protection to a Phase I station (where both stations are operating at maximum parameters) is 120 km. The 140 km distance recommended by SEA results from a Phase II station providing 18 dB protection to a Phase I station — again, where both stations are operating at maximum parameters.

[107] The Vega Report also contends that an 18 dB protection ratio "is the more appropriate measurement for the 220 MHz service" but similarly provides no technical justification for this assertion. *See* Vega Report at 5 n.17.

[108] AMTA Third Order Petition at 4. AMTA also notes that it anticipates that many Phase I incumbents will become successful Phase II licensees because of their existing investment and commitment to the 220 MHz industry. *See id*. at 3 n.5.

[109] *Id.* at 4 n.7.

[110] *Id*.

67. AMTA, however, does not provide an explanation as to why it believes that Phase II licensees have "superior regulatory rights," nor does it explain how the rules we have adopted for Phase I and Phase II operations might affect the resolution of interference disputes between Phase I and Phase II licensees. We therefore do not believe that AMTA's observations lend support to its claim that Phase I/Phase II separation criteria should be modified.

2. Calculation of Service Contour

68. In the *220 MHz Third Report and Order*, the Commission determined that Phase II EA and Regional licensees should be required to locate their base stations at least 120 km from the base stations of co-channel Phase I licensees, except that such licensees should be permitted to locate their base stations less than 120 km from the base stations of co-channel Phase I licensees if they provide 10 dB protection to the predicted 38 dBu service contour of the base stations of co-channel Phase I licensees.[111] The Commission also decided that the predicted 38 dBu contour of the Phase I licensees would be calculated based on the licensee's authorized ERP and HAAT — not on the maximum allowable ERP and HAAT provided in the Commission's rules for the 220-222 MHz band.[112] The Commission required licensees to operate at their initially authorized ERP and HAAT, and did not permit licensees to seek modification of their authorization to operate at a higher ERP or HAAT.[113] The Commission further determined that licensees operating at power levels lower than their initially authorized ERP would be required to seek modification of their authorization to reflect the lower ERP.[114]

69. SEA, PCIA, INTEK, and SMR disagree with the Commission's decision to require Phase I licensees to modify their authorizations to reflect the system's actual ERP, and to define the service area based upon actual ERP.[115] PCIA contends that this is a departure from previous Commission policy for Part 90.[116] PCIA and SEA argue that these requirements will result in a

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[111] *220 MHz Third Report and Order*, 12 FCC Rcd at 11025 (para. 173).

[112] *Id.* at 11026 (para. 174).

[113] *Id.*

[114] *Id.*

[115] PCIA Third Order Petition at 2-3; SEA Third Order Comments at 13-14; INTEK Third Order Petition at 5-8; SMR Third Order Reply at 8-9.

[116] PCIA Third Order Petition at 2; *see also* SMR Third Order Reply at 9 (arguing that using maximum facility values to determine a licensee's protected service area will more closely track Commission actions in other services).

significant reduction in the protection afforded to Phase I licensees.[117] Several parties contend that a Phase I licensee's service area should be defined based on maximum authorized power and height levels.[118] INTEK claims that using maximum facility values will strike the appropriate balance between the interests of Phase I and Phase II licensees.[119]

70. We disagree with petitioners. As indicated in the *220 MHz Third Report and Order*, the Commission's goal was to provide service to the public.[120] In authorizing Phase II licensees to serve a particular geographic area, the Commission sought to allow them to serve "any portion" of that area, "except for portions of the area already being served by co-channel Phase I licensees."[121] The area "already being served" by co-channel Phase I licensees plainly cannot be calculated based on an assumption of the use by such licensees of maximum allowable operating parameters. Nor should this area be calculated based on the licensee's authorized ERP, if the licensee is not operating at its authorized ERP. Rather, it is the area the licensee was serving at the time the decisions adopted in the *220 MHz Third Report and Order* became effective,[122] and must therefore be calculated based on the licensee's ERP and HAAT at that time.[123]

71. In asserting that the *220 MHz Third Report and Order* is inconsistent with previous Part 90 policy, PCIA points to the Commission's actions in protecting Part 90, Subpart S[124] systems from co-channel interference based on maximum allowable ERP. Specifically, PCIA cites the use of the Table in Section 90.621(b)(4) of the Commission's Rules that identifies appropriate

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[117] PCIA Third Order Petition at 2-3; SEA Third Order Comments at 14.

[118] INTEK Third Order Petition at 5-6; PCIA Third Order Petition at 2-3; SEA Third Order Comments at 14; SMR Third Order Reply at 8-9.

[119] INTEK Third Order Petition at 7-8.

[120] *220 MHz Third Report and Order*, 12 FCC Rcd at 11026 (para. 174).

[121] *Id.*

[122] The decisions adopted in the 220 MHz Third Report and Order became effective on August 21, 1997.

[123] For licensees that relocated from their initially authorized base station site to a new location, in accordance with the provisions of the *220 MHz Second Report and Order*, that new location would likely be at a different HAAT than the initial base station site. The Commission allowed such licensees to be authorized at that new HAAT, even if it was higher than their initially authorized HAAT, but did not permit them to obtain authorization at a higher ERP. *See* paras. 175-184, *infra*. The area being served by a Phase I licensee that relocated its base station is therefore calculated based on the HAAT and the ERP of the relocated base station.

[124] Operations in the 800 MHz and 900 MHz services are governed by Subpart S of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.601-90.699.

co-channel separation distances between existing stations and proposed "short-spaced"[125] stations based on the operating parameters of such stations. While it is true that the Table assumes that existing stations are considered to be operating at maximum allowable ERP, it is important to note that the Table was designed to provide licensees seeking to "short-space" with a simple, uncomplicated method for doing so that did not require the submission of a technical showing.[126]

72. In developing the Table, the Commission decided that the distance separations would be based on the more conservative approach of providing 18 dB of protection to the 40 dBu contour of an existing station,[127] and of assuming that existing stations were operating at maximum allowable ERP.[128] However, the Commission indicated that an entity providing a technical showing as part of a request to short-space to an existing station by waiver could base that showing on the existing station's *actual* power and antenna height.[129] We therefore disagree with PCIA's assertion that our use of the Table in Section 90.621(b)(4) for the 800 MHz and 900 MHz services demands that we protect Phase I 220 MHz licensees based on the maximum allowable ERP for the 220 MHz band.[130] Rather, we believe that the Commission's decision in the *220 MHz Third Report and Order* to protect Phase I licensees in accordance with their actual facilities is not inconsistent with Commission practices in those services.

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[125] The term "short-spacing" in Subpart S of Part 90 refers to the locating of base stations at distances closer than the standard separation distance between co-channel Subpart S stations (*i.e.*, 113 km (70 miles)).

[126] Prior to the use of the Table, applicants seeking to short-space without gaining the consent of all affected co-channel licensees were required to file a waiver request that included a technical showing demonstrating 10 dB protection to the 40 dBu contour of all existing co-channel facilities. *See* Amendment of Part 90 of the Commission's Rules to Permit the Short-Spacing of Specialized Mobile Radio Systems Upon Concurrence from Co-Channel Licensees, PR Docket No. 90-34, Report and Order, 6 FCC Rcd 4929 (para. 5) (1991) (*Short-Spacing Report and Order*).

[127] *Id*. at 4931 (para. 14). *See also* Amendment of Part 90 of the Commission's Rules to Permit the Short-Spacing of Specialized Mobile Radio Systems Upon Concurrence from Co-Channel Licensees, PR Docket No. 90-34, Memorandum Opinion and Order, 7 FCC Rcd 6069 (para. 2) (1992) (*Short-Spacing Memorandum Opinion and Order*).

[128] Co-channel Protection Criteria for Part 90, Subpart S Stations Operating Above 800 MHz, PR Docket No. 90-60, Report and Order, 8 FCC Rcd 7293, 7295-96 (para. 13) (1993).

[129] *See Short-Spacing Report and Order*, 6 FCC Rcd at 4936 (n.44) (1991). *See also Short-Spacing Memorandum Opinion and Order* 7 FCC Rcd at 6070 (para. 7) (1992).

[130] We assume that SMR, in stating that "applying maximum facilities" in determining a Phase I licensee's service contour "will more closely track actions in other services" is, too, referencing the Commission's rules that apply to Subpart S stations. SMR Third Order Reply at 9.

73. We continue to believe that our goal should be to facilitate the provision of 220 MHz service to the public. In accomplishing this, we must attempt to ensure that such service is not denied to any geographic areas in the Nation. If we were to assume that all 220 MHz Phase I licensees are operating at the maximum power and antenna height for the 220 MHz service — 500 watts ERP and 150 meters HAAT, respectively — when many are not operating at such parameters and may never operate at such parameters,[131] we could force Phase II licensees to provide considerably greater protection to co-channel Phase I licensees than necessary, and thereby potentially deny service to the public in areas beyond the Phase I licensee's actual 38 dBu service contour.[132]

74. A 220 MHz Phase I license was granted by the Commission based on a specific location and operating parameters. There was no guarantee that the licensee would be allowed to alter its operating parameters without the possibility of competing applications from others wishing to serve this territory.[133] Similarly, we cannot assume that Phase I licensees that were operating at a particular ERP at the time of the decisions adopted in the *220 MHz Third Report and Order* became effective will some day increase that ERP to their authorized power level. And again, to protect a Phase I licensee's base station in accordance with a power level that the licensee *might* employ at some time in the future could deny service to the public.

75. We thus conclude that the decision made by the Commission in the *220 MHz Third Report and Order* regarding the method to be used to calculate the 38 dBu service contour of Phase I base stations[134] is appropriate, and requests for the adoption of alternative methods made by petitioners are therefore denied. The Wireless Telecommunications Bureau will issue a Public Notice following the adoption of this Order announcing when applications must be filed by Phase I, non-nationwide licensees in order to enable such licensees to comply with the requirement that

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[131] A height of 150 meters is roughly equivalent to the height of 50-story building.

[132] The 38 dBu service contour based on maximum operating parameters (*i.e.*, 500 watts ERP and 150 meters HAAT) is approximately 28 miles. The 38 dBu service contour of a base station with operating parameters of 100 watts ERP and 150 meters HAAT, for example, is approximately 20 miles. Thus, if we were to calculate the 38 dBu service contour for such a base station *based* on maximum operating parameters, a potential loss of service to the public could occur in the area between 20 and 28 miles of the Phase I licensee's base station (an area of approximately 1,200 square miles).

[133] In the *220 MHz Third Report and Order*, for example, the Commission emphasized that it did "not think it would be appropriate to allow Phase I licensees to expand their service areas by increasing their power and antenna height without the filing of mutually exclusive applications." *220 MHz Third Report and Order*, 12 FCC Rcd at 11026 (para. 174).

[134] *See id*.

they modify their authorization to reflect the ERP at which they were operating at the time the decisions adopted in the *220 MHz Third Report and Order* became effective.

3. Emission Masks

76. In the *220 MHz Third Report and Order*, the Commission decided to eliminate the emission mask at the edge of "inside" channels for Phase I and Phase II licensees authorized on contiguous channel assignments.[135] The Commission concluded that, because licensees constructing base stations must adhere to the required co-channel separation criteria with respect to all co-channel licensees in their areas, the increased strength of out-of-band signals would not result in any increased likelihood of harmful interference to co-channel licensees.[136] This decision met with a generally favorable response.[137] Both Glenayre and PCIA remark that the Commission's action will permit licensees to use the most efficient technology for the service they offer.[138] Comtech, however, raises a concern that "the revised rule section 90.733(d) and (e) only address instances in which licensees use channels that are wider than 5 kHz [and that the] regulations do not clearly address circumstances in which licensees combine multiple authorizations to use channels wider than 5 kHz," and petitions us to clarify this matter.[139]

77. Under the revised rule Section 90.733, the emission limits in Section 90.212(f) must be met only at the outermost edges of contiguous channels. The rule does not address contiguous channels under only one authorization — Section 90.733 simply uses the term "authorized contiguous channels." Therefore, we clarify that emission limits must be met *only* at the outermost edges of contiguous channels, including those cases in which licensees combine multiple authorizations that result in contiguous channels. As the Commission indicated in the *220 MHz Third Report and Order*, because licensees operating on contiguous channels will be providing required protection to all co-channel licensees in their area, interference will not occur to those licensees as a result of the elimination of the emission mask on all "inside" channels. Thus, so long as licensees combining multiple authorizations to create a contiguous channel block maintain the required co-channel protection on all of the channels that comprise the channel block, we clarify that such licensees will be permitted to eliminate the emission mask on all "inside" channels.

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[135] *Id.* at 11000-01 (para. 122).

[136] *Id.*

[137] Glenayre Third Order Petition at 2; PCIA Third Order Reply at 2.

[138] Glenayre Third Order Petition at 2; PCIA Third Order Reply at 2.

[139] Comtech Third Order Petition at 10-11.

4. Antenna Height Above Average Terrain vs. Antenna Height Above Ground

78. In the 220 MHz service, the Commission's rules specify maximum allowable power, both for stations operating on base station frequencies (*i.e.*, channels in the 220-221 MHz band) and for stations operating on mobile station frequencies (*i.e.*, channels in the 221-222 MHz band). In both instances, the maximum allowable power is related to the height of the transmitting antenna. The maximum allowable ERP of a base station, or of a fixed station operating on base station frequencies, is provided in a Table in Section 90.729(a) of the Commission's Rules, and is a function of HAAT.[140] The maximum allowable ERP of stations operating on mobile frequencies is provided in a formula in Section 90.729(b) of the Commission's Rules as a function of the height of the antenna above ground.[141] SEA petitions the Commission to calculate the maximum allowable ERP of stations operating on mobile frequencies based on HAAT, and INTEK also comments in favor of using the HAAT standard.[142]

79. SEA advocates restricting antenna height to 7 meters above average terrain rather than 7 meters above ground, and characterizes the above-ground standard as a weakening of the rule.[143] SEA believes that measuring antenna height above ground could lead to violations of the intent of the rule, and could cause disruptive interference.[144] According to SEA, allowing construction of fixed and paging antennas in the 221-222 MHz band at 7 meters above ground could permit greater ERP from a paging station operating at a high site than would be allowed by a standard 220-221 MHz repeater transmitter, because the ERP of the standard 220-221 MHz repeater transmitter is a function of HAAT.[145] SEA therefore requests that Sections 90.729(b) and 90.729(c) be modified to reference HAAT instead of height above ground.[146]

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[140] 47 C.F.R. § 90.729(a). For references to HAAT in the text of the *220 MHz Third Report and Order*, see 12 FCC Rcd at 11008 (para. 139), 11013 (para. 148), 11026 (para. 174).

[141] 47 C.F.R. § 90.729(b). For references to height above ground in the text of the *220 MHz Third Report and Order*, see 12 FCC Rcd at 11007-08 (paras. 138-139), 11012 (para. 145), 11013-14 (paras. 150-151). *See also* Sections 90.729(c) and 90.733(h)(4) of the Commission's Rules, 47 C.F.R. §§ 90.729(c), 90.733(h)(4).

[142] SEA Third Order Petition at 2-5; SEA Third Order Comments at 2; INTEK Third Order Comments at 7.

[143] SEA Third Order Comments at 2.

[144] SEA Third Order Petition at 2-3.

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

[146] *Id.* at 4-5 & n.6. Section 90.729(c) of the Commission's Rules places limitations on the height and power of base stations operating on Channels 196-200. The height limit in this rule is associated with the station transmitting antenna's height above ground. 47 C.F.R. § 90.729(c).

80. We agree with SEA and grant its request to modify Sections 90.729(b) and 90.729(c). We believe that it is appropriate to require the height limitation for stations operating on the 221-222 MHz frequencies to be associated with the HAAT of the station's transmitting antenna, rather than the antenna's height above ground. This rule was adopted to minimize interference to adjacent channel operations on the 221-222 MHz channels. By requiring licensees operating stations in this band to limit the height of their transmitting antenna to 7 meters HAAT, we will eliminate instances of licensees inadvertently causing interference to adjacent channel operations by transmitting at an antenna height of 7 meters above ground at a particularly high elevation.[147] We also agree with SEA that Section 90.729(c), too, should be modified to indicate that the height restriction of base stations operating on channels 196-200 must be associated with such station's transmitting antenna HAAT, rather than the antenna's height above ground. Modification of this rule in this manner will similarly eliminate instances of inadvertent interference to adjacent channel operations in the 221-222 MHz band from transmissions on these channels.

[147] As currently provided in Section 90.729(b) of the Commission's Rules, a licensee may operate a station at a height greater than 7 meters above ground so long as it reduces its power in accordance with the formula provided in that section. In modifying Section 90.729(b) to limit the height of transmitting antennas to 7 meters HAAT, we also modify the rule to indicate that licensees may operate a station at a height greater than 7 meters HAAT so long as they reduce their power in accordance with the formula. 47 C.F.R. § 90.729(b).

5. Allowable Power Limit for Mobile Channels

81. For the 220 MHz service, the maximum allowable power for transmissions on mobile channels (channels in the 221-222 MHz band) is 50 watts ERP.[148] As the Commission explained in the *220 MHz Third Report and Order*, this restriction is necessary to ensure that such transmissions, including transmissions on mobile channels by licensees operating two-way paging systems, do not cause adjacent channel interference.[149]

82. Comtech and Glenayre petition the Commission to revise the 50 watt ERP limit.[150] Comtech first notes that, with respect to nationwide licensees, there is no danger of interference to co-channel licensees, because no other licensee will be authorized to use their mobile side channels, anywhere in the Nation.[151] Comtech acknowledges, however, that it is adjacent channel users, and not co-channel licensees, that the height and power limitations are intended primarily to protect.[152] Comtech claims that the Commission's approach for the 220 MHz service differs from the Commission's regulations governing similar services.[153] Comtech contends that the potential for interference is no greater in the VHF band than it is for 220-222 MHz systems, and that comparable transmissions in the VHF band are permitted up to 500 watts ERP.[154] Therefore, Comtech argues, the Commission should revise its rule to reflect the same height-power limits and adjacent-channel interference restrictions it provides for the VHF band in Section 22.535 of the Commission's Rules.[155] Glenayre states that limiting the mobile frequency ERP for fixed operations will preclude efficient one-way paging operations, especially for nationwide licensees.[156]

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[148] *See* Section 90.729(b) of the Commission's Rules, 47 C.F.R. § 90.729(b); *220 MHz Third Report and Order*, 12 FCC Rcd at 11007-08 (paras. 138-139), 11013-14 (paras. 150-151). The 50 watt ERP limit applies to all 220 MHz service mobile transmitters, including Phase I and Phase II licensees, both nationwide and non-nationwide.

[149] *220 MHz Third Report and Order*, 12 FCC Rcd at 11007-08 (paras. 138-139), 11013-14 (paras. 150-151).

[150] Comtech Third Order Petition at 4-6; Glenayre Third Order Petition at 4-5.

[151] Comtech Third Order Petition at 4.

[152] *Id.*

[153] *Id.*

[154] *Id.* at 4-5. *See* Sections 22.531 and 22.535 of the Commission's Rules, 47 C.F.R. §§ 22.531, 22.535.

[155] Comtech Third Order Petition at 5, citing 47 C.F.R. § 22.535.

[156] Glenayre Third Order Petition at 4.

83. We do not believe it would be appropriate to grant petitioners' request. In the *220 MHz Third Report and Order*, the Commission decided that fixed stations operating on mobile channels would be limited to 50 watts ERP, with an antenna height of 7 meters above ground, but provided that this height could be exceeded if the power level is decreased below 50 watts ERP in accordance with a formula provided in Section 90.729(b) of the Commission's Rules. The Commission imposed this antenna height limit for fixed stations operating on the 221-222 MHz frequencies because of its concern about the possibility of interference to traditional, two-way land mobile operations if adjacent channel licensees transmitting on these frequencies operated fixed paging stations at high elevations. That is, if a licensee operates a fixed paging station at a high elevation, its signal could interfere with the signal of an adjacent channel mobile station attempting to transmit to its base station receive site.

84. If 220 MHz licensees were to be permitted, as petitioners propose, to operate fixed stations in the 221-222 MHz band at a power level of 500 watts ERP — ten times higher than the current limit — we would have a similar concern about the possibility of interference to adjacent channel 220 MHz land mobile operations. In its comments in this proceeding, SEA — which "petitioned the Commission to strengthen the current rule" with regard to mobile channel operations — argues against petitioners' request to allow an increase in the power limit on the mobile channels, stating that it "vigorously oppose[s] any weakening of [the] rule" relating to operations on such channels.[157] We conclude that permitting 500 watt ERP fixed station transmissions on the mobile channels in the 220 MHz band could cause interference to adjacent channel operations, and therefore reject the adoption of a rule that would allow for such transmissions.

85. Petitioners further argue that, because the Commission permits a 500 watt ERP power level for paging base stations operating on Part 22 VHF channels that are adjacent to channels used for mobile transmissions, we should similarly provide for such power limits in the 220 MHz band. In support of this argument, they contend that the existence of 500 watt ERP stations presents no more potential for interference in the 220-222 MHz band than currently exists in the Part 22 VHF band. We reject petitioners' argument because it assumes a commonality between the technical characteristics of VHF land mobile equipment operating under Part 22 of the Commission's Rules and equipment used in the 220-222 MHz band. The technical characteristics of VHF equipment operating under Part 22 and equipment operating in the 220 MHz band are, of course, not identical. Thus, we cannot accept petitioners' contention that the

[157] *See* SEA Comments at 2. In order to reduce the likelihood of interference to adjacent channel operations in the 220 MHz band, we have, in response to SEA's petition in this instant proceeding, modified Section 90.729(b) and (c) of the Commission's Rules to require licensees operating on channels in the 221-222 MHz band to adhere to an antenna height limit associated with their station antenna's HAAT, rather than the antenna's height above ground. *See* paras. 78-80, *supra*.

same rules that apply to Part 22 paging operations on channels adjacent to channels used for mobile transmissions should be applied to the 220 MHz band.

86. To illustrate how the Commission's rules currently address similar operations in the 220 MHz band, we turn to Section 90.723(d)-(f) of the Commission's Rules. These rules provide the procedures that 220 MHz licensees must follow to ensure that interference is not caused by base station transmitters operating on channels adjacent to channels used for mobile transmissions. In the 220-222 MHz band, where the base station transmit frequencies are situated immediately below the mobile station transmit frequencies,[158] the possibility exists for interference to the reception of signals at base stations receiving on the lower channels in 221-222 MHz band from transmissions from nearby base stations transmitting on the upper channels in the 220-221 MHz band.

87. The Commission, in developing the original 220 MHz service rules, recognized this possibility for interference, and adopted rules that require geographic separation between Phase I base stations transmitting on the upper 40 channels in the 220-221 MHz band (*i.e.*, channels 161-200, referred to in the Commission's rules as "Sub-band B")[159] and Phase I base stations receiving on the lower 40 channels in the 221-222 MHz band (*i.e.*, channels 1-40, referred to in the Commission's rules as "Sub-band A"). Specifically, the rules require a separation of at least 6 km between Phase I base stations transmitting at 500 watts ERP on Sub-band B channels and base stations receiving on Sub-band A channels if the transmitting channel is within 200 kHz of the receive channel.[160] In the *220 MHz Third Report and Order*, the Commission continued to demonstrate its concern about this type of interference by requiring Phase II licensees transmitting on Sub-band B channels to provide protection to existing Phase I licensees operating on Sub-band A channels in accordance with the provisions of Section 90.723(d);[161] and by requiring Phase II licensees operating on Sub-band B and Sub-band A channels to coordinate the location of their base stations with one another to avoid interference.[162]

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[158] Base station transmit frequencies are located at 220-221 MHz, and mobile station transmit frequencies are located at 221-222 MHz. *See* Section 90.715 of the Commission's Rules, 47 C.F.R. § 90.715.

[159] There are two-hundred 5 kHz channel pairs in the 220 MHz band. They are numbered from "1" to "200." *See* Section 90.715 of the Commission's Rules, 47 C.F.R. § 90.715.

[160] *See* Section 90.723(d) of the Commission's Rules, 47 C.F.R. § 90.723(d). The Commission also provided a Table in Section 90.723(d) that indicates appropriate geographic separations for base stations operating at power levels below 500 watts ERP.

[161] *220 MHz Third Report and Order*, 12 FCC Rcd at 11015 (para. 153); 47 C.F.R. § 90.723(d). *See also* Section 90.723(e) of the Commission's Rules, 47 C.F.R. § 90.723(e).

[162] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

88. Because the Commission adopted these requirements to ensure that base stations in the 220-221 MHz band do not cause interference to the reception of signals by base station receivers in the adjoining 221-222 MHz band, if we were to allow 500 watt ERP operation by fixed stations transmitting on any and all of the channels in the 221-222 MHz band, we would similarly have to ensure that interference would not be caused to base station receivers attempting to receive signals in that band. To accomplish this in a manner similar to the way we currently protect base station receivers operating on the Sub-band A channels, we would have to require 500 watt ERP fixed stations transmitting on channels in the 221-222 MHz band to afford protection to any base station receive sites up to 200 kHz removed in accordance with provisions similar to those prescribed in Section 90.723.[163] Thus, for example, if a Phase II, nationwide licensee authorized on channels 81-90 sought to operate a 500 watt ERP fixed station on its mobile channels, then it would have to ensure that all licensees operating up to 200 kHz below channel 81 (*i.e.*, channels 41-80) and all licensees operating up to 200 kHz above channel 90 (*i.e.*, channels 91-130) would be protected.

89. For the licensee seeking to operate a fixed station at a power level of 500 watts ERP, protecting a multitude of Phase I, non-nationwide base stations in its geographic area would be a difficult, but not impossible task. This is because all Phase I licensees were initially authorized to construct only one base station, and have now generally completed the construction of their stations. However, protecting all affected Phase II licensees and all affected Phase I nationwide licensees[164] would, realistically, be impossible. This is because, unlike Phase I non-nationwide licensees, who have constructed a single base station that must be protected, Phase II licensees and Phase I nationwide licensees will be continually adding, relocating, and modifying stations as they develop and implement their systems over the course of their initial ten-year license period and possibly beyond that period. In order not to restrict the development of such licensees' systems, a licensee seeking to operate a fixed station in the 221-222 MHz band at a power level of 500 watts ERP would have to protect all possible sites in an EA or Region where a given EA or Regional licensee might seek to locate a base station, and all possible sites in the Nation where a nationwide licensee might seek to locate a base station. Moreover, we could not simply allow a licensee seeking to operate a 500 watt ERP fixed station to only protect the already-constructed

[163] The Table in Section 90.723(d) provides the geographic separations for base station receive sites operating on Sub-band A channels and base station transmitter sites operating on Sub-band B channels. The 500 watt ERP power limit and 150 meter HAAT limit for stations transmitting in the 220-221 MHz band form the basis for the geographic separations provided in the Table. As discussed in paras. 78-80, *supra*, the Commission will restrict licensees operating fixed stations on 221-222 MHz channels to an antenna height of 7 meters HAAT. So, if we were to develop a table to protect base station receive sites in the 221-222 MHz band from fixed stations operating in that band, then, because of the lower antenna height restriction for fixed stations operating in the 221-222 MHz band, such a table would provide for lesser geographic protection of base station receive sites than provided in the Table in Section 90.723(d).

[164] An “affected” licensee would be a licensee operating on channels up to 200 kHz removed from the channels of the 500 watt ERP fixed station operating in the 221-222 MHz band.

base stations of affected licensees.[165] To do so would deny affected licensees the ability to locate future base stations at any and all available sites.

90. We conclude that the only manner in which a licensee could operate a fixed station in the 221-222 MHz band at a power level of 500 watts ERP without disrupting the operations of other 220 MHz licensees would be for that licensee to gain the consent of all affected 220 MHz licensees to operate such a station. We will therefore permit a licensee seeking to operate fixed stations in the 221-222 MHz band at a power level of 500 watts ERP to seek a waiver of Section 90.729(b) of the Commission's rules if the licensee obtains the consent for such operation from the following licensees authorized on channels up to 200 kHz removed from the channels of the licensee: (1) all nationwide licensees; (2) all Phase II non-nationwide licensees that are authorized in an EA or Region that is located within 6 km of the licensee's proposed fixed station;[166] (3) all Government nationwide users; and (4) all Phase I non-nationwide licensees with a base station that is located within 6 km of the licensee's proposed fixed station.[167]

91. Finally, in addressing petitioners' request to permit operations on the 220 MHz mobile channels at a power level of 500 watt ERP, we note Glenayre's contention that limiting the mobile frequency power will "preclude efficient one-way paging, especially for nationwide licensees."

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[165] Under such a scenario, once a 500 watt ERP fixed station was constructed on a 221-222 MHz channel, all Phase II licensees operating on channels up to 200 kHz removed from that channel would risk interference if they situated their base stations too close to the location of the fixed station.

[166] As discussed in note 163, *supra*, the geographic separations in the Table in Section 90.723(d) are based on the 150 meter HAAT limit for antennas transmitting in the 220-221 MHz band, but because we restrict the antenna height of stations in the 221-222 MHz band to 7 meters HAAT (*see* paras. 78-80, *supra*), a licensee operating a 500 watt ERP fixed station in the 221-222 MHz band would not have to provide as great a degree of geographic protection to base station receive sites as required by the Table. In the absence of a table that provides the geographic separations required to protect 220 MHz base station receive sites from fixed stations operating at an antenna height of 7 meters, however, we will require a licensee seeking the consent of Phase II non-nationwide licensees to operate at a power level of 500 watts ERP to obtain the consent of all such licensees that are authorized in an EA or Region that is located within 6 km of the licensee's proposed fixed station.

[167] In paras. 95-106, *infra*, we provide procedures under which Phase I non-nationwide licensees may modify their authorizations to add additional transmitters within their existing service area or change the operating parameters or location of their base station. We conclude that a licensee seeking the consent of a Phase I non-nationwide licensee to operate at 500 watts ERP will not be required to obtain the consent of that licensee with regard to any additional transmitters for which the licensee obtains authorization. The licensee will only be required to obtain the consent with regard to the licensee's base station, as authorized at the time the licensee seeks the consent. Also, as indicated in note 166, *supra*, in the absence of a table that provides the geographic separations required to protect 220 MHz base station receive sites from fixed stations operating at an antenna height of 7 meters, we will require a licensee seeking the consent of Phase I non-nationwide licensees to operate at a power level of 500 watts ERP to obtain the consent of all such licensees with a base station that is located within 6 km of the licensee's proposed fixed station.

SEA, in response, suggests that the "obvious application for the mobile transmit frequency is as a response or `talk-back' channel for two-way paging." In the *220 MHz Third Report and Order* the Commission did not specify how the mobile channels in the 220 MHz band would be used. They could be used as a response channel (as part of a two-way paging system),[168] or they could be utilized to provide 220 MHz licensees with a second one-way paging channel. We believe the Commission's rules for operation on the mobile channels (*i.e.*, limiting power to 50 watts ERP and antenna height to 7 meters HAAT), will enable 220 MHz licensees who intend to operate paging systems to use these channels to best meet their needs and the needs of their customers — whether this is to implement one-way or two-way paging systems — and will ensure that they do so without causing interference to other licensees in the 220 MHz band.

6. Allowable Power Limit for Nationwide Licensees

92. Comtech and Glenayre petition the Commission to raise the allowable power limit for the base stations of nationwide licensees.[169] Glenayre requests that the Commission permit nationwide licensees to operate their base stations up to a limit of 1400 watts ERP, provided that the transmitter is at least 5 km from a fixed adjacent channel system, with systems within 5 km to be restricted to 500 watts ERP or less, depending on distance, as provided in the Commission's existing rules.[170] Glenayre suggests the Commission could create a sliding scale, similar to the sliding scale established in Section 90.729(a) of the Commission's Rules, for reducing ERP to account for antenna height.[171] Comtech also requests that the maximum ERP be raised to the 1400 watts permitted paging stations in the VHF band.[172]

93. Comtech asks that power limitations imposed by Section 90.729 be modified to reflect that nationwide licensees operate without co-channel interference concerns.[173] Both Glenayre and Comtech stress that raising the permitted ERP is necessary for the competitive

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[168] We note that the Commission currently provides spectrum for two-way paging in the narrowband Personal Communications Service. There, the channels in the 901-902 MHz band are specifically identified as paging "response" channels. These channels may also be used by paging licensees authorized in Part 22 and Part 90 to create two-way paging systems. Significantly, the power limit for stations operating on the 901-902 MHz channels is only 7 watts ERP (much lower than the 50 watt ERP limit for stations operating in the 221-222 MHz band).

[169] Glenayre Third Order Petition at 3-5; Comtech Third Order Petition at 4-6.

[170] Glenayre Third Order Petition at 3.

[171] *Id.*

[172] Comtech Third Order Petition at 5. *See* Section 22.535 of the Commission's Rules, 47 C.F.R. § 22.535.

[173] Comtech Third Order Petition at 5-6.

operation of 220 MHz service paging systems.[174] Arch and PCIA support Glenayre's and Comtech's proposal to increase the maximum ERP for 220 MHz service nationwide paging base stations to VHF paging levels.[175] Metricom agrees, calling the ERP limit "artificial," and stating that the limit requires the construction of more base stations, thus placing additional and unnecessary costs on nationwide licensees.[176]

94. In the *220 MHz Report and Order*, which established the 220 MHz service, the Commission adopted technical rules for the 220 MHz service, including a rule providing height-power restrictions for stations operating in the 220 MHz band.[177] In the *220 MHz Third Notice*, the Commission did not seek comment with regard to the appropriateness of this rule. Commenters in that proceeding, however, sought modification of the rule with regard to height-power limitations for stations operating in the 221-222 MHz band. Therefore, in the *220 MHz Third Report and Order*, the Commission modified the rule based upon these comments. Commenters, however, did not seek modification of the rule with regard to height-power limitations for stations operating in the 220-221 MHz band, and the Commission did not address or modify these height-power limitations. We therefore view this matter, as raised by petitioners herein, as being beyond the scope of this reconsideration proceeding. We do, however, believe that an increase in the allowable power for nationwide licensees would be acceptable provided that appropriate technical criteria are established to ensure that interference does not occur to adjacent channel systems. We therefore invite those parties seeking modification of the Commission's rules regarding this matter to submit a petition for rulemaking in order to change the allowable power limit and to develop such criteria.

7. Modification of Phase I Non-Nationwide Licenses

95. Phase I non-nationwide licensees were granted site-specific authorizations. These licensees are authorized to transmit on specific frequencies at a specific set of coordinates. Petitioners point out that neither the *220 MHz Third Report and Order* nor the *220 MHz Second Report and Order* provides a mechanism by which Phase I licensees may modify their

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[174] *Id*. at 5; Glenayre Third Order Petition at 5-6.

[175] Arch Third Order Comments at 4; PCIA Third Order Reply at 4. In its reply comments, Arch clarifies that, while it opposes increasing ERP for mobile transmitters, it supports increasing ERP for paging base stations. Arch Third Order Reply at 5.

[176] Metricom Third Order Comments at 7.

[177] *See* Section 90.729 of the Commission's Rules, 47 C.F.R. § 90.729.

authorizations.[178] Petitioners note that in the *220 MHz Third Report and Order*, the Commission stated that Phase I non-nationwide licensees will not be permitted to seek modification of their authorizations to operate at a higher ERP or HAAT.[179] SBT contends that the Commission's position on modifications expresses far more concern for future licensees than for incumbent licensees who are currently providing service to the public.[180] Petitioners also assert that licensees must be permitted to make operational changes that are necessary to maintain the viability of a station and are required in order to compete successfully in the marketplace.[181] Petitioners therefore urge the Commission to adopt procedures for ongoing modifications for Phase I licensees.[182]

96. Several petitioners also urge us to permit Phase I licensees to modify their systems as long as such modifications do not expand their service contour.[183] They note that this flexibility has been granted to incumbents in other Part 90 services.[184] SMR also asks that licensees be permitted to modify their system configurations without prior Commission approval, arguing that a similar rule has been approved in the 800 MHz and 900 MHz services.[185] In addition, AMTA

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[178] AMTA Third Order Petition at 9-10; SEA Third Order Comments at 14; SMR Third Order Petition at 9; SMR Third Order Reply at 8; USMC Third Order Reply at 3. As explained in para. 8, *supra*, the *220 MHz Second Report and Order* provided a one-time mechanism for Phase I licensees to modify their authorizations.

[179] *See 220 MHz Third Report and Order*, 12 FCC Rcd at 11026 (para. 174); AMTA Third Order Petition at 9-10; INTEK Third Order Petition at 5; PCIA Third Order Petition at 4-5; SEA Third Order Comments at 13.

[180] SBT Third Order Reply at 3-4.

[181] AMTA Third Order Petition at 9; PERS Third Order Comment at 5 (unpaginated); SMR Third Order Reply at 8; *see also* USMC Third Order Reply at 3.

[182] AMTA Third Order Petition at 8-10; INTEK Third Order Petition at 5-7; PERS Third Order Comment at 5 (unpaginated); PCIA Third Order Petition at 4-5; SBT Third Order Reply at 3-4; SEA Third Order Comments at 14-15; SMR Third Order Petition at 9-11; SMR Third Order Comments at 3; SMR Third Order Reply at 8; USMC Third Order Comments at 2-3.

[183] AMTA Third Order Petition at 9-10; INTEK Third Order Petition at 5; PERS Third Order Comment at 5 (unpaginated); PCIA Third Order Petition at 4-5; SEA Third Order Comments at 15; SMR Third Order Petition at 9-11; SMR Third Order Comments at 3; SMR Third Order Reply at 8-9. Petitioners contend that the Phase I licensees' service contours should be variously defined, *e.g.*, by their 28 dBu contour (AMTA Third Order Petition at 10; INTEK Third Order Petition at 5-6), their original 38 dBu contour (SEA Third Order Comments at 15), and at maximum facilities (PCIA Third Order Petition at 4-5; SMR Third Order Comments at 3; SMR Third Order Reply at 8-9).

[184] AMTA Third Order Petition at 8-10; INTEK Third Order Petition at 6-7; SEA Third Order Comments at 14-15; SMR Third Order Comments at 3; SMR Third Order Reply at 8.

[185] SMR Third Order Petition at 10-11.

requests that we permit Phase I licensees to convert overlapping incumbent systems into a geographic license, as is currently allowed for incumbent 800 MHz and 900 MHz authorizations.[186]

97. We recognize that licensed sites may become unusable for a variety of reasons.[187] We are also persuaded by petitioners' arguments that, in order to maintain the economic and technical viability of a licensee's 220 MHz service, Phase I incumbent licensees should be permitted to modify their authorizations (*e.g.*, to relocate their base station, to change the ERP or HAAT of their base station) as long as doing so does not expand their service contour, as we have defined that contour in this proceeding. Such licensees will therefore be permitted to make those modifications to their authorizations that do not expand their 38 dBu service contour.[188] Phase I licensees will also be able to add additional transmitters within their 38 dBu service contour without prior authorization from the Commission, *e.g.*, to fill in "dead spots" in coverage or to reconfigure their systems to increase capacity within their service area, so long as signals from such transmitters do not expand their 38 dBu service contour.

98. We note that a Phase I licensee who relocates under the criteria set forth in the *220 MHz Second Report and Order* (and as further considered below in this Order)[189] must first establish its 38 dBu service contour at its new base station site in accordance with the Commission's rules for relocation before it can take advantage of the flexibility provided in this section. Phase I licensees, however, will be required to notify the Commission of any changes in technical parameters or additional stations constructed through a minor modification of their license. These modification applications will not be subject to public notice and petition to deny provisions in the Commission's rules, or mutually exclusive applications.

99. As discussed in paras. 81-91, *supra*, the Commission's Rules require geographic separation between Phase I base stations transmitting on the upper 40 channels in the 220-221 MHz band (*i.e.*, channels 161-200, referred to in the Commission's rules as "Sub-band B") and Phase I base stations receiving on the lower 40 channels in the 221-222 MHz band (*i.e.*, channels 1-40, referred to in the Commission's rules as "Sub-band A"). Also, as indicated *supra*, in the *220 MHz Third Report and Order*, the Commission's Rules require Phase II licensees transmitting on

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[186] AMTA Third Order Petition at 9-10.

[187] For example, deconstruction of a tower site, refusal of a site lessor to extend a lease, or introduction of incurable interference at a site.

[188] A licensee's 38 dBu service contour shall be calculated in accordance with the provisions contained in paras. 68-75, *supra*.

[189] *See* paras. 167-174, *infra*.

Sub-band B channels to provide geographic protection to Phase I licensees operating on Sub-band A channels;[190] and require Phase II licensees operating on Sub-band B and Sub-band A channels to coordinate the location of their base stations with one another to avoid interference.[191] Our decision herein to permit Phase I, non-nationwide licensees to modify their authorizations to add additional transmitter sites or change the operating parameters or location of their base station, however, raises interference concerns if such stations are authorized to licensees operating in Sub-bands A and B.

100. First, with respect to potential interference among Phase I licensees, we believe that Phase I licensees authorized on Sub-bands A or B channels that may seek to add additional transmitter sites or change the operating parameters or location of their base station should be required to coordinate such actions in a manner similar to the way that Phase II licensees authorized on Sub-bands A and B channels must coordinate the location of their base stations under Section 90.723(f) of the Commission's Rules. Thus, to ensure that appropriate geographic separations are maintained if licensees authorized on Sub-bands A or B channels seek modifications to add additional transmitter sites or change the operating parameters or location of their base station, we will require licensees authorized on Sub-bands A or B channels to coordinate such actions with one another to avoid interference. These licensees must include with their application for a minor modification of their authorization,[192] a certification that the station has been appropriately coordinated.

101. Second, under Section 90.723(e) we currently require Phase II licensees authorized on Sub-band B channels, in locating their base stations, to provide geographic protection to the base stations of Phase I licensees authorized on Sub-band A channels. However, we do not believe that it would be appropriate to require a Phase II licensee authorized on Sub-band B, as it constructs its EA or Regional systems, to have to protect receivers associated with additional transmitter sites that a Phase I licensee authorized on Sub-band A might add within its service contour at any time in the future. We conclude, therefore, that a Phase II licensee authorized on Sub-band B channels should continue to provide geographic protection to Phase I licensees authorized on Sub-band A, but only to the base station of such licensees, as authorized at the time the Phase II, Sub-band B licensee seeks to construct its station.

102. Third, under our existing rules, there are no protection or coordination requirements among Phase I licensees authorized on Sub-band B and Phase II licensees authorized on Sub-band A. This is because Phase II licensees authorized on Sub-band A, in constructing their systems,

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[190] *See* Section 90.723(e) of the Commission's Rules, 47 C.F.R. § 90.723(e).

[191] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

[192] *See* para. 98, *supra*.

would be aware of the location of the base stations of Phase I licensees on Sub-band B and would, in all likelihood, avoid placing their base stations in locations where such Phase I, Sub-band B stations might cause interference. However, if Phase I, Sub-band B licensees are permitted to add additional transmitter sites or modify the operating parameters or location of their base station at any time in the future, such actions could cause unforeseen interference to the base stations of Phase II, Sub-band A licensees. We will therefore require Phase I, Sub-band B licensees, in adding additional transmitter sites or modifying the operating parameters or location of their base station, to coordinate such actions with Phase II licensees authorized on Sub-band A. Phase I, Sub-band B licensees must include with their application for a minor modification of their authorization,[193] a certification that the station has been appropriately coordinated.

103. In addition, we will allow Phase I 220 MHz licensees to convert their site-by-site licenses to a single license authorizing operations throughout the incumbents' contiguous and overlapping 38 dBu service contours of their constructed multiple sites. Phase I licensees seeking such reissued licenses must make a one-time filing of specific information for each of their external base station sites to assist the Commission staff in updating the Commission's database. We also will require evidence that such facilities are constructed and placed in operation and that, by operation of the Commission's rules, no other licensee would be able to use these channels within this geographic area. We note that facilities added or modified that do not extend the 38 dBu service contour will not require prior approval under this procedure.

104. We believe this decision strikes a fair balance between the interests of incumbents and Phase II licensees. Under our ruling, a Phase I licensee will be free to maintain full operational flexibility in providing service within its own service contour, while ensuring that the licensee's use of the spectrum does not negatively impact other 220 MHz operations.

105. Finally, we note that SMR contends that Section 309(j)(6)(D) of the Communications Act[194] prohibits the Commission from permitting Phase II licensees to modify their systems unless Phase I licensees are given the same right.[195] SMR asserts that we are therefore compelled to permit Phase I licensees full flexibility to modify their licenses so long as they remain within their contour.[196]

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[193] *See* para. 98, *supra*.

[194] 47 U.S.C. § 309(j)(6)(D).

[195] SMR Third Order Petition at 9-10.

[196] *Id.*

106. Because we have decided to permit Phase I licensees to modify their authorizations it is unnecessary for us to reach a decision on the merits of this issue in the present proceeding.

8. Substantial Service

107. To promote operational flexibility for 220 MHz licensees, and because the Commission recognizes that certain 220 MHz service offerings, such as fixed, point-to-point operations, might not lend themselves to compliance with a construction requirement based on the traditional design of private land mobile radio systems (*i.e.*, the construction and operation of single, high-powered base stations providing signal coverage over an extended area), the *220 MHz Third Report and Order* provides Phase II nationwide 220 MHz licensees with the alternative of meeting their construction requirements by demonstrating the provision of appropriate levels of substantial service to the public at the prescribed 5-year and 10-year construction benchmarks.[197] The option of meeting the substantial service requirement is also available to EA and Regional licensees.[198] The Commission decided not to adopt a particular measure of substantial service for such licensees, but rather to consider such showings on a case-by-case basis.[199] In the Commission's rules, substantial service is defined as service that is sound, favorable, and substantially above a level of mediocre service that just might minimally warrant renewal.[200]

108. Metricom requests that the Commission specify the criteria that will be used to determine whether licensees have provided substantial service, and reminds the Commission that licensees would risk the loss of their licenses if their understanding of the definition of substantial service differs from that of the Commission.[201] Metricom argues that the imprecision of the substantial service requirement makes it difficult for licensees to determine whether they meet the substantial service requirement, and that elementary fairness requires clarity in such an important a

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[197] *220 MHz Third Report and Order*, 12 FCC Rcd at 11016-19 (paras. 156, 158-159), 11082-83 (paras. 328-331), 11086-87 (para. 341).

[198] *Id*. at 11020-21 (para. 163).

[199] *Id.* at 11017-18, 11020-21 (paras. 158, 163).

[200] The term “substantial service” is defined in Section 90.743(a) and Section 22.940(a)(1)(i) of the Commission's Rules, 47 C.F.R. §§ 90.743(a), 22.940(a)(1)(i). *See also 220 MHz Third Report and Order*, 12 FCC Rcd at 11044 (para. 215) (“We continue to believe it is appropriate for all Phase I and Phase II 220 MHz Service licensees seeking renewal of their authorization to meet the requirements for license renewal similar to those provided in Section 22.940 of our rules.”).

[201] Metricom Third Order Comments at 5.

matter.[202] Comtech calls the substantial service requirement "vague," and joins Metricom in seeking clarification.[203]

109. We disagree with the view of the substantial service requirement advanced by Comtech and Metricom that more precision is necessary in the definition. The Commission has found the substantial service standard useful in several contexts, including paging,[204] Personal Communications Services,[205] General Wireless Communications Service,[206] Wireless Communications Service,[207] and Local Multipoint Distribution Service.[208] In the case of Private Land Mobile Radio Service, the Commission has used the substantial service standard in regulations governing the 800 MHz and 900 MHz SMR bands[209] as well as the 220 MHz band.[210]

110. We refer parties who seek clarification of the standard beyond the definition in the Commission's rules to the Commission's stated purpose in applying the standard to 220 MHz service (recognizing the needs of licensees with service offerings such as fixed, point-to-point operations),[211] and to previous examples the Commission has given of substantial service.[212] Any further elaboration of the standard at this time would, we believe, only limit its flexibility and usefulness to licensees and their customers.

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[202] *Id*. at 5-6.

[203] Comtech Third Order Reply at 10.

[204] *See* Section 22.940(a)(1)(i) of the Commission's Rules, 47 C.F.R. § 22.940(a)(1)(i).

[205] *See* Section 24.16(a) of the Commission's Rules, 47 C.F.R. § 24.16(a).

[206] *See* Section 26.14(a) of the Commission's Rules, 47 C.F.R. § 26.14(a).

[207] *See* Section 27.14(b)(1) of the Commission's Rules, 47 C.F.R. § 27.14(b)(1).

[208] *See* Section 101.1011(a) of the Commission's Rules, 47 C.F.R. § 101.1011(a).

[209] *See* Sections 90.665(c) and 90.816(b)(1)(i) of the Commission's Rules, 47 C.F.R. §§ 90.665(c), 90.816(b)(1)(i).

[210] *See* Sections 90.725(h), 90.743(a)(1), 90.767(b), and 90.769(b) of the Commission's Rules, 47 C.F.R. §§ 90.725(h), 90.743(a)(1), 90.767(b), 90.769(b).

[211] *220 MHz Third Report and Order*, 12 FCC Rcd at 11016 (para. 156).

[212] *See* 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, RM-8117, RM-8030, RM-8029, Implementation of Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Second Report and Order, 12 FCC Rcd 19079, 19094-95 (para. 34) (1997) (*800 MHz SMR Order*).

9. Spectrum Efficiency Standard

111. In the *220 MHz Third Report and Order*, the Commission concluded that Phase I and Phase II licensees who combine contiguous 5 kHz channels in order to operate on channels wider than 5 kHz would be required to meet the following spectrum efficiency standard: for voice communications, a licensee is required to employ equipment that provides at least one voice channel per 5 kHz of channel bandwidth; for data communications, a licensee is required to employ equipment that operates at a data rate of at least 4,800 bits per second per 5 kHz of channel bandwidth.[213] The standard is implemented through the Commission's equipment type acceptance process.[214]

112. To avoid inadvertently discouraging new, innovative, and efficient technologies, the Commission provided manufacturers with an extra measure of flexibility: type acceptance for equipment not meeting the voice or data efficiency standard could be obtained if (1) the manufacturer submitted a technical analysis with its application for type acceptance demonstrating that the equipment would provide more spectral efficiency than is required by the spectrum efficiency rule; and (2) this technical analysis was deemed satisfactory by the Commission's Equipment Authorization Division.[215] Licensees would be permitted to employ equipment that failed to meet the spectrum efficiency standard only if such equipment had been thus type accepted.[216]

113. The Commission explained that the efficiency standard furthered one of the Commission's principal goals in establishing the 220-222 MHz service, which was to encourage the development of spectrally efficient technologies.[217] While the Commission did not disagree with the suggestion that the market would supply licensees with the incentive to use their spectrum efficiently, the Commission nevertheless believed that adoption of a mandatory efficiency standard was an appropriate and effective means of ensuring that licensees aggregating

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[213] *220 MHz Third Report and Order*, 12 FCC Rcd at 10998-99 (para. 116).

[214] *Id.* at 10999 (para. 117).

[215] *Id.* at 10999 (para. 118). Upon specific request, the Equipment Authorization Division would advise applicants who desired to develop equipment for this band as to the acceptability of their technical analysis. *Id.* at 10999 (para. 118 n.212).

[216] *Id.* at 10999 (para. 118).

[217] *Id.* at 10998 (para. 113).

contiguous channels would operate efficiently.[218] In response to the claim that the standard could prevent the provision of certain services in the 220-222 MHz band, the Commission emphasized that its purpose was not to prevent the offering of services, but rather to spur, through the adoption of the standard, the development of spectrally-efficient technologies in any number of other wireless communications services that might eventually be provided in the band.[219]

114. The Commission further decided to retain the standard only through December 31, 2001.[220] By allowing the standard to then expire, the Commission intended to balance its goal of stimulating the development of spectrally efficient technology against its desire to grant licensees flexibility and to rely on market forces.[221] The Commission also expressed its confidence that by the time the standard expired, the technology of wireless equipment would have surpassed the requirements of the standard, and that there would no longer be a need to mandate such a standard for the 220-222 MHz band.[222]

115. Comtech petitions the Commission to exempt paging from the 220 MHz efficiency standard.[223] Comtech states that it is unaware of any manufacturer investigating one-way paging transmitters capable of meeting the efficiency standard, and that the necessary research and development to meet the standard would prevent the commercial availability of such equipment before the standard sunsets in 2002.[224] Arch and PCIA concur with Comtech that the efficiency standard is so stringent that it effectively negates the Commission's decision to allow paging in the

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[218] *Id.* at 10998 (para. 114).

[219] *Id.* at 10998 (para. 115).

[220] *Id.* at 10999 (para. 119).

[221] *Id.*

[222] *Id.* at 10999-11000 (para. 119).

[223] Comtech Third Order Petition at 8. Comtech notes that the Commission exempted paging from the Refarming efficiency standard. *See* Replacement of Part 90 by Part 88 To Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, Amendment of the Commission;s Rules Concerning Maritime Communications, PR Docket No. 92-257, Memorandum Opinion and Order, 11 FCC Rcd 17676, 17689 (para. 26) (1996) (*Refarming Reconsideration Order*) (amending Section 90.203(j)(7) of the Commission's Rules, 47 C.F.R. § 90.203(j)(7), to state that paging channels are exempted from the newly-adopted narrowband requirements).

[224] Comtech Third Order Petition at 6-7. Comtech states that one-way paging channels are generally 25 kHz wide and transmit at a maximum data rate of 6,400 bits per second, or .256 bits per second per hertz, a rate well below the efficiency standard's 4,800 bit per second per 5 kHz, or .96 bits per second per hertz. *Id.*

220 MHz band.[225] Comtech, in arguing for removal of the spectrum efficiency standard, contends that Comtech itself, rather than the Commission, can best ensure the most intensive use of Comtech's 25 kHz of nationwide spectrum.[226] Arch states that 6,400 bits per second in a 25 kHz channel "pushes the limits of practical radio frequency network design for paging using presently available technology."[227]

116. Glenayre agrees that no equipment now exists that meets the Commission's 220 MHz efficiency standard for data.[228] Predicting that "equipment meeting the standard will only become available at about the time the standard is eliminated," Glenayre cautions that the current lack of acceptable data equipment leaves 220 MHz licensees with three choices: to forego data, and implement voice equipment only; to construct voice equipment to meet construction deadlines, and construct data equipment separately when data equipment that meets the standard becomes available; or to delay all construction until acceptable data equipment is on the market.[229] Rather than exempting paging operations, as Comtech requests, Glenayre proposes that the Commission resolve the contradiction by introducing an achievable standard now that would become progressively more strict.[230] Specifically, Glenayre advocates the adoption, through the Commission's type acceptance process, of a standard of 0.256 bps/Hz immediately; 1 bps/Hz by December 31, 2001, and 2 bps/Hz by December 31, 2006.[231] Glenayre suggests the standard could be eliminated by December 31, 2011.[232]

117. PERS agrees with Glenayre that strengthening the standard over time, and thus requiring more efficient technologies as they became available, would better serve the public interest.[233] Metricom, however, views Glenayre's proposal as unnecessary and burdensome to licensees, and argues that licensees would have to replace their equipment to keep up with the

[225] Arch Third Order Comments at 2; PCIA Third Order Reply at 3.

[226] Comtech Third Order Reply at 7.

[227] Arch Third Order Reply at 4.

[228] Glenayre Third Order Petition at 5.

[229] *Id.* at 5-6.

[230] *Id.* at 6.

[231] *Id.*

[232] *Id.*

[233] PERS Third Order Comments at 2 (unpaginated).

standard's increasing stringency.[234] In opposing the imposition of any efficiency standard, Metricom argues that the market should dictate the type of equipment to be employed.[235] Arch agrees with Metricom that Glenayre's proposal would artificially require paging operators to upgrade their equipment.[236]

118. Glenayre also petitions the Commission to conform the 220 MHz band spectrum efficiency standard to the 4,800 bits per second per 6.25 kHz channel standard the Commission adopted in the Refarming proceeding.[237] Glenayre argues that this step would offer the benefit of allowing the same equipment to be used in both bands.[238] In a slight variation of this proposal, Rush compares the 220 MHz efficiency standard (4,800 bps per 5 kHz channel) to the Refarming efficiency standard (4,800 bps in a 6.25 kHz channel), and requests that the 220 MHz standard be reduced to 3,840 bits per second, which would produce a consistent .768 b/s/Hz rate between the bands.[239] Such an adjustment, according to Rush, could enhance the potential for equipment development in both bands.[240]

119. INTEK, arguing in favor of the spectrum efficiency standard, reminds the Commission that, from its inception, the 220 MHz band has been especially dedicated to fostering spectrally-efficient narrowband technologies, and that prior to the *220 MHz Third Report and Order*, only narrowband equipment operating on 5 kHz channels was permitted in the 220 MHz band.[241] INTEK considers that in the *220 MHz Third Report and Order*, the Commission struck a "careful balancing of equities" which permits the aggregation of contiguous 5 kHz channels, and allows licensees to conduct paging and fixed operations on a primary basis, but also imposes a

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[234] Metricom Third Order Comments at 8.

[235] *Id.*

[236] Arch Third Order Comments at 3.

[237] Glenayre Third Order Petition at 6-7. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, Report and Order and Further Notice of Proposed Rulemaking, 10 FCC Rcd 10076, 10122 (para. 97) (1995) (*Refarming Report and Order*).

[238] Glenayre Third Order Petition at 7.

[239] Rush Third Order Petition at 3-4.

[240] *Id.*

[241] INTEK Third Order Comments at 2.

temporary efficiency standard on licensees using non-narrowband systems on their aggregated channels.[242]

120. This balance, according to INTEK, accommodates the licensees' desire for flexibility, and yet remains true to the narrowband character of the band, and to the equipment manufacturers who responded to the Commission's creation of a unique test-bed for narrowband technologies.[243] INTEK also maintains that Phase I licensees, including Rush and Comtech, applied for licenses in the expectation that they would be restricted to the use of 5 kHz narrowband equipment.[244]

121. INTEK and SEA dispute the argument that paging operations should be made exempt from the efficiency standard because no suitable equipment is available.[245] INTEK points out that, until the *220 MHz Third Report and Order*, paging was restricted in the 220 MHz band.[246] Therefore, INTEK maintains, any claim that manufacturers will be unable to satisfy 220 MHz band licensees' equipment needs cannot be other than premature and speculative, the more so in light of the prodigious increases in data-rate efficiency over the past five years.[247] SEA views Inflexion technology as indicative of this trend, and argues that application of the standard will encourage further development.[248] SEA suggests that parties opposed to applying the standard to paging do not sufficiently appreciate the flexibility provided by Section 90.203(k)(2) of the Commission's Rules, by which the Commission retains the flexibility to type-accept equipment that does not meet the letter of the standard.[249]

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[242] *Id.* at 2-3.

[243] *Id.*

[244] *Id.* at 4.

[245] *Id.* at 4-5; SEA Third Order Comments at 10-11.

[246] INTEK Third Order Comments at 4-5.

[247] *Id.* Prior to the *220 MHz Third Report and Order*, 220 MHz licensees were permitted to operate paging systems only on an ancillary basis to their land mobile operations. *220 MHz Third Report and Order*, 12 FCC Rcd at 10951 (para. 7).

[248] SEA Third Order Comments at 10-11. INTEK, while observing that it "does not believe . . . that any blanket statement regarding the plans of manufacturers to introduce paging equipment in the 220 MHz band that meets the spectrum efficiency standard can be made by any party . . . with any degree of certainty," also "notes that . . . at least one paging technology exists today (Inflexion) that, if adapted for use in the 220 MHz band, would appear to meet the data efficiency standard." INTEK Third Order Comments at 5.

[249] SEA Third Order Comments at 11.

122. Comtech maintains that any reliance on Motorola's Inflexion system is misplaced because Inflexion is a two-way technology, and the Commission's rules specifically permit only one-way paging on 220 MHz channels.[250] Moreover, Comtech maintains, Inflexion requires a minimum of 50 kHz of spectrum, which very few 220 MHz licensees will possess.[251] Comtech further states that INTEK's own 220 MHz band data equipment is too large and heavy to be commercially acceptable for paging, and that, in contrast to one-way paging receivers, INTEK's two-way equipment can request re-transmission of information received with errors.[252]

123. We agree with petitioners who argue that our goal of making the 220 MHz service rules more flexible by permitting paging on a primary basis, and by permitting the aggregation of contiguous channels, is threatened by evidence presented in the record of this reconsideration proceeding that paging equipment is not presently capable of meeting the efficiency standard for the band. This concern, coupled with our view that, since adoption of the *220 MHz Third Report and Order*, circumstances have developed in a manner that suggests that 220 MHz spectrum will be used efficiently by service providers regardless of whether we impose any spectrum efficiency standard,[253] has led us to revise the Commission's rules to eliminate the spectrum efficiency standard for the 220 MHz service.

124. While we are convinced by the showings in the record that carriers seeking to offer one-way paging services would be impaired in their ability to take advantage of the licensing flexibility introduced in the *220 MHz Third Report and Order* because of the requirements of the spectrum efficiency standard, there are two reasons why we are not persuaded by the claim of some petitioners that the best solution to this problem is to exempt paging carriers from the standard.

125. First, these petitioners offer what is, at best, a partial cure for the problem illuminated in the record, which is tailored to address their particular interests but which ignores our overall policy objectives. The Commission indicated in the *220 MHz Third Report and Order* that a spectrum efficiency standard would not prevent the offering of services, but would spur the

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[250] Comtech Third Order Petition at 8 n.13. We note that Comtech's claim that only one-way paging is permitted for the 220 MHz service misconstrues the Commission's rules. *See* para. 91, *supra*. We also note that Comtech claims that two-way units are not being developed with a return channel below 800 MHz, because their large size would render them commercially unacceptable. *Id.* at 9.

[251] *Id.* at 8.

[252] Comtech Third Order Reply at 5. Comtech adds that, without a modem, INTEK's data equipment efficiency drops to 1.2 kbps. *Id*.

[253] *See* paras. 136-137, *infra*.

development of spectrum-efficient technologies.[254] The difficulty with the approach proposed by the petitioners is that, in singling out paging services for special treatment while leaving the standard in place, their solution would have the potential effect of impeding the introduction and deployment of other services demanded by consumers that use available equipment that does not comply with the strictures of the efficiency standard.

126. The Metricom case illustrates the anomalous consequences of pursuing the solution posed by the petitioners. Metricom, a relatively new entrant in the wireless service marketplace,[255] indicates that it is interested in employing 220 MHz frequencies to provide innovative non-voice services to the public.[256] Although Metricom does not petition for removal of the efficiency standard, it *does* observe — in arguing against the Glenayre proposal for a "sliding scale" efficiency standard that would be made more lenient now but more stringent in future years[257] — that it "disagrees with the imposition of *any* efficiency standard because Metricom believes that the marketplace should dictate the type of equipment to be employed, and the Commission should not foreclose new technological advances that may, in fact, yield greater efficiencies."[258]

127. We agree with Metricom. We do not believe it is prudent to leave the spectrum efficiency standard in place in the face of evidence that it could impair technological advances while also making it more difficult for carriers to take advantage of licensing flexibility to meet consumer demand. We also conclude that there is not a rational basis for avoiding this problem for carriers choosing to offer one type of service while permitting the problem to stand as a barrier to carriers offering other services.

128. Second, our elimination of the efficiency standard, while avoiding the policy deficiencies that are inherent in an exemption limited to one class of carriers, grants the relief sought by the petitioners. The fact that we have not chosen petitioners' specific solution — for the reasons we have presented — in no way diminishes the fact that the petitioners are aided by our decision.

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[254] *220 MHz Third Report and Order*, 12 FCC Rcd at 10998 (para. 115).

[255] Metricom Third Order Comments at 2-3.

[256] *Id.* at 3.

[257] *See* para. 117, *supra*.

[258] Metricom Third Order Comments at 8 (emphasis added). *See* para. 117, *supra*. We also note that, in earlier stages of this proceeding, Metricom opposed the spectrum efficiency standard and supported our permitting paging to be offered on a primary basis in the 220 MHz band. *See 220 MHz Third Report and Order*, 12 FCC Rcd at 10989-90 (paras. 93-94), 10997-98 (para. 112 n.210, and accompanying text).

129. As we discussed above, the Commission neither foresaw nor intended that the efficiency standard would effectively bar the offering of paging or other services on the 220 MHz band.[259] The record before us, however, has convinced us that the spectrum efficiency standard impedes those licensees desiring to take advantage of the flexibility that we intended to establish with the *220 MHz Third Report and Order*. Retaining the efficiency standard could also block near-term entry into the 220 MHz market by equipment manufacturers not currently in this market, as well as the entry of different types of service providers, including small businesses.[260] We also continue to believe that market pressures will encourage efficient use of spectrum, and that technological innovation in the coming years will surpass the efficiency level of the adopted standard. These twin engines of progress seem to us a more reliable and reasonable method of promoting spectrum efficiency in the 220 MHz band than an efficiency standard that will soon expire in any case.

130. In this regard, we believe it is instructive to view the efficiency standard in the historical context of the Commission's development of licensing rules for the 220 MHz service and, in doing so, to illustrate why the standard is not necessary to ensure realization of the goals originally established by the Commission in its design of the licensing parameters for the service. "One of [the Commission's] principal goals in establishing the 220-222 MHz band was to encourage the development of spectrally efficient technologies."[261] In 1991, the Commission chose to pursue this goal, in the *220 MHz Report and Order*, by adopting service rules for the assignment of 200 five kHz channel pairs in the 220-222 MHz band, with mutually exclusive applications assigned through random selection procedures.[262]

131. The Commission's objective was to foster the development of efficient technology through a channelization plan that required equipment capable of utilizing extremely small slices of spectrum. The Commission's decision to promote spectrum efficiency through its channelization plan was, in part, the product of the Commission's awareness that the method of awarding licenses — the random selection process — could not serve as an effective tool for advancing this goal. The Commission, of course, did not at this time have statutory authority to employ competitive bidding as a means of awarding 220 MHz licenses.

132. In the *220 MHz Third Report and Order*, the Commission sought to combine the objectives of spectrum efficiency and flexible licensing by allowing paging to be offered in the 220

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[259] *See* para. 113, *supra*.

[260] *See* para. 139, *infra*.

[261] *See 220 MHz Third Report and Order*, 12 FCC Rcd at 10998 (para. 113).

[262] *220 MHz Report and Order*, 6 FCC Rcd at 2364-65 (paras. 59, 62). *See* para. 5, *supra*.

MHz band on a primary basis, by permitting the aggregation of contiguous 5 kHz channels in the band, and also by imposing spectrum efficiency standards intended to replicate the efficiencies demanded by 5 kHz operations.[263] However, as the discussion above suggests, we are now convinced that assigning licenses based on competitive bidding creates incentives for the promotion of spectrum efficiency. In view of the incentives for spectrum efficiency produced by competitive bidding, evidence presented in the record and discussed above that paging cannot be provided consistent with the efficiency standard, and developments that have occurred since the release of the *220 MHz Third Report and Order*, we now believe it is appropriate to rely on the competitive bidding process and marketplace forces to ensure that 220 MHz spectrum will be employed efficiently, even where contiguous 5 kHz channels are aggregated.

133. Unlike the comparative hearing and random selection processes that were the only means by which the Commission could award licenses at the time it established its licensing framework for the 220 MHz service, the Commission has found the competitive bidding process to be an effective tool for promoting efficient spectrum use. The Commission has determined that the auction process tends:[264]

> to reinforce the desire of licensees to make efficient and intensive use of . . . spectrum. Auctions make explicit what others are willing to pay to use the spectrum, and the licensees' need to recoup the out-of-pocket expenditure for a license should provide additional motivation to get the most value out of the spectrum.

In fact, the Commission has found that "the system of competitive bidding . . . will lead to the issuance of licenses to those parties who value the licenses most highly and who thus can be

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[263] In taking this step, the Commission observed:

> In adopting this [spectrum efficiency] requirement, we note that we do not disagree with commenters that suggest that licensees acquiring 220 MHz spectrum through competitive bidding will likely have the incentive to use their spectrum efficiently. We believe, however, that our adoption of a mandatory spectrum efficiency standard at this time is an appropriate and effective means of ensuring that licensees aggregating contiguous channels will operate in an efficient manner.

220 MHz Third Report and Order, 12 FCC Rcd at 10998 (para. 114). *See* para. 113, *supra*..

[264] Implementation of Section 309(j) of the Communications Act – Competitive Bidding, Second Report and Order, PP Docket No. 93-253, Second Report and Order, 9 FCC Rcd 2348, 2358 (para. 58), *recon*., Second Memorandum Opinion and Order, 9 FCC Rcd 7245 (1994).

expected to make efficient and intensive use of the spectrum, as contemplated by Section 309(j)(3)(D) [of the Communications Act]."[265]

134. Moreover, in services where the Commission has used competitive bidding to award licenses, there is evidence that licensees are using spectrally efficient technologies, despite the decision of the Commission not to impose spectrum efficiency standards. Since 1994, for example, the Commission has granted more than 2,000 licenses for new PCS services, which has contributed to the nationwide deployment of new technologies. Although no efficiency standards were imposed by the Commission in connection with the licensing and operation of PCS services, two widely used digital broadband PCS technologies are achieving spectrum efficiencies that surpass analog cellular technology. Both Code Division Multiple Access (CDMA) and Time Division Multiple Access (TDMA) are significantly more efficient than analog cellular.

135. In addition, in services (such as cellular services) that were not subject to auctions but that compete with broadband PCS, many licensees are replacing older, less efficient analog technologies with these digital technologies. For example, AT&T has started to switch its cellular analog services to TDMA digital technology.

136. A further reason for our decision to eliminate the spectrum efficiency standard is the fact that, since our adoption of the *220 MHz Third Report and Order*, circumstances relating to the development and utilization of the band have continued to change in a manner that suggests that 220 MHz spectrum will be used efficiently by service providers, regardless of whether we impose a spectrum efficiency standard. These circumstances have manifested themselves in two respects. First, subscribership growth, which is driving construction of facilities and deployment of equipment in the band, has continued at a pace that leads us to conclude that the efficient utilization of 5 kHz channels in the band is now well-established.[266] To take one example, an INTEK subsidiary operating 220 MHz business radio systems "recorded a major increase in subscribers during the second fiscal quarter ended March 31, 1998."[267] The widespread use of spectrally efficient equipment, which has gained momentum since the adoption of the *220 MHz*

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[265] Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624, 634-44 (para. 46) (1995).

[266] We note that there are currently 1,515 non-nationwide licenses to provide 220 MHz service. A total of 1,190 of those licenses are held by licensees who have met all construction requirements pursuant to the Commission's Rules. As we discuss elsewhere, we also believe there is a sound basis for concluding that future growth in the market for 5 kHz equipment in the 220 MHz band will not be compromised by our decision to eliminate the spectrum efficiency standard. *See* para. 141, *infra*.

[267] Intek Global Web Site, http://www.intekglobal.com/newspr.htm#press2, Apr. 8, 1998. Internal subscribership growth increased 109 percent in the quarter ending March 31, 1998, with an acquisition accounting for further subscriber growth. *Id*.

Third Report and Order, suggests that the Commission's original objectives in promoting efficient utilization of spectrum in the band have been largely successful.

137. Second, the Commission has acted in a related rulemaking proceeding to spur flexible use of the band in a manner that promotes further growth in the utilization of spectrally efficient 5 kHz channels. In the *Forty-Mile Rule Order*,[268] the Commission eliminated the requirement that a licensee could not hold more than one channel or channel group within a 64-kilometer (40-mile) area unless that licensee could demonstrate that its communications needs warranted additional channels or channel groups. In taking this action, the Commission concluded that "our service rules will foster efficient spectrum use and discourage uneconomic warehousing by providing licensees with the opportunity to provide a variety of fixed, mobile, and paging services in response to changing market conditions."[269] The Commission also determined that:[270]

> Under the existing 40-mile rule, a Phase I licensee would have to forego the pursuit of additional customer markets until its initial system was fully loaded, even if the additional channels themselves were partially or fully loaded. Removing the 40-mile rule will allow Phase I licensees to acquire additional licenses with which to implement future service plans. Keeping the 40-mile rule with respect to Phase I licensees could unnecessarily interfere with the ability of licensees possessing both Phase I and Phase II licenses to utilize their licenses in a unified fashion.

Thus, we conclude that, subsequent to our adoption of the *220 MHz Third Report and Order*, we have acted to ensure efficient use of 220 MHz spectrum. In particular, we believe our decision in the *Forty-Mile Rule Order* has stimulated deployment of spectrally efficient 5 kHz equipment, a process which was already well under way at the time we made that decision.[271]

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[268] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Fourth Report and Order, 12 FCC Rcd 13453 (1997) (*Forty-Mile Rule Order*).

[269] *Forty-Mile Rule Order*, 12 FCC Rcd at 13459 (para. 13).

[270] *Id.* at 13459 (para. 14). The *Forty-Mile Rule Order* applied to Phase I licensees in the 220 MHz service. With respect to Phase II licenses, the Commission, in the *220 MHz Third Report and Order*, did not limit the number of licenses that may be acquired by one entity, and the Commission also allowed licensees to place stations anywhere within their geographically licensed areas. *220 MHz Third Report and Order*, 12 FCC Rcd at 10969, 10982-83 (paras. 53, 80).

[271] The chairman of the 220 MHz Council, American Mobile Telecommunications Association (AMTA), in commenting on the *Forty-Mile Rule Order*, stated that the 5 kHz channels in the band are not conducive to cellular-like offerings. "`We're doing advanced technologies already, but our bread and butter is plain-vanilla dispatch. We're going

138. We therefore conclude that the best public policy (from both a spectrum management and competitive point of view) is to allow 220 MHz service providers to make their own decisions about whether they will build the narrowband systems that are marketed by certain equipment manufacturers, or whether their business plans would be better served through the purchase of alternative equipment with other functionalities. Elimination of the standard preserves the Commission policy of maximizing flexible use of spectrum — carriers planning to offer one-way paging or other services on aggregated channels would not be stymied by the current lack of equipment that meets the standard.

139. This policy is particularly important for 220 MHz spectrum because small businesses may be prominent players in developing this spectrum, and these businesses would directly benefit from a flexible spectrum use policy that enables them to respond efficiently to marketplace demand. Given the relatively small amount of spectrum assigned in a 220 MHz license, we think it is reasonable to expect that acquisition of the 220 MHz Phase II licenses may be relatively affordable, and therefore this service may be particularly attractive to small businesses.[272] Since the Commission has chosen to extend service flexibility to licensees acquiring licenses in other spectrum auctions,[273] we see no sound policy basis for retaining a spectrum efficiency standard that will restrict such flexibility in the 220 MHz band.

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to continue to be the low-cost alternative.'" C. Carlson, "Band May Consolidate," Wireless Week, Sept. 1, 1997, at 104 (quoting James Evans). Another industry official stated that "`[t]his [the *Forty-Mile Rule Order*] removes the last shred of uncertainty in the band, especially for companies seeking capital beyond their own resources to expand.'" *Id*. (quoting Alan Shark, President, AMTA).

[272] A 220 MHz equipment manufacturer representative has observed that the 220 MHz auction will be "the first auction in which small businesses really could participate." *See* D. Wayne, "Unresolved 220 MHz Auction Issues May Delay New Round," Radio Communications Report, Mar. 16, 1998, at 9, 10 (quoting Michael Bayly, land mobile marketing director form Midland SMR). Mr. Bayly also expressed concern that the auction rules for the service could hamper participation by small businesses.

[273] *See, e.g., 800 MHz SMR Order*; 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 Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No. 93-252, 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 (1997); 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, PR Docket No. 89-553, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Implementation of Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Second Order on Reconsideration and Seventh Report and Order, 11 FCC Rcd 2639 (1995).

140. Although we note that no party has petitioned directly for this result, we do not believe that any 220 MHz licensee or applicant will be harmed by this grant of additional flexibility.[274] If we were to grant petitioners' requests to exempt paging from the spectrum efficiency standard, the resulting change in the Commission's existing rules would, we believe, hardly be less extensive than elimination of the standard. Either change would have implications for the business decisions of parties interested in obtaining 220 MHz licenses, particularly licenses with contiguous channel assignments. While we have found it advisable to eliminate the standard in order to preserve and promote our goal of fostering flexible use of the band, we are confident that market forces and consumer demand will be adequate in driving efficient use of the spectrum.

141. Our decision should not be construed as a lessening of our commitment to using this band to stimulate innovative narrowband technology. Moreover, eliminating the spectrum efficiency standard for combined contiguous channels marks no major shift in Commission policies regarding utilization of the 220 MHz band. Because the efficiency standard applies only to those licensees who may combine contiguous 5 kHz channels to form larger channels, it has only limited effect on the majority of 220 MHz service licensees whose channels are *not* contiguous. The market for efficient narrowband 5 kHz equipment will remain strong, in our view, because most 220 MHz service licenses do not consist of contiguous channels and, thus, service providers will look for reasonably priced, well-designed equipment capable of utilizing 5 kHz channels. We therefore believe that the actions we are taking here will not adversely affect the development and deployment of narrowband equipment.

142. Turning to other arguments made in the record, we do not concur with SEA's suggestion that licensees unable to find paging equipment that meets the standard should turn to Section 90.203(k)(2) of the Commission's Rules for relief.[275] Section 90.203(k)(2) provides for type acceptance of transmitters that do not meet the efficiency standard, but only if such transmitters are accompanied by a technical analysis demonstrating that they will provide more spectral efficiency than would be provided by use of the spectrum efficiency standard.[276] Developments since the time of our adoption of the alternative efficiency showing, however, have

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[274] The filing of a petition regarding any decision contained in a Commission Order tolls the running of the 30-day period during which the Commission may *sua sponte* reconsider its earlier disposition of any issue decided in that Order. As a result, the Commission generally retains the authority to reconsider additional issues when it addresses a specific issue raised on reconsideration. *See* Central Florida Enterprises v. FCC, 598 F.2d 37, 48 n.51 (D.C.Cir., 1978), *cert. dismissed*, 441 U.S. 957 (1979).

[275] "The flexibility available under this rule appears to be unappreciated by those wanting to abolish the efficiency standard for paging." SEA Third Order Comments at 11.

[276] 47 C.F.R. § 90.203(k)(2).

made us less confident that equipment manufacturers or service providers are in a position to make the requisite technical showing. First, no party in this reconsideration proceeding has suggested any particular technical analysis as an alternative to the bits-per-second, per 5 kHz channel, measurement used in the efficiency standard. Second, ComTech, in a petition currently pending before the Commission seeking waiver of the efficiency standard,[277] does not advance any technical analysis in support of the waiver request, arguing instead that "a 25 kHz paging system that fails the data efficiency standard could still service several hundred thousand customers . . . ."[278]

143. Furthermore, no party has suggested that equipment that would be capable of achieving superior spectrum efficiency, if it were evaluated by some alternative technical analysis, is either currently or imminently available. Therefore, we believe that there is no reasonable basis upon which to conclude that manufacturers or licensees could rely on Section 90.203(k)(2) standard to provide an adequate opportunity for paging equipment to be type accepted for the 220-222 MHz band.

144. We also believe that the alternative mechanism contained in Section 90.203(k)(2) could be problematic because it can serve to competitively disadvantage carriers who are required to wait until an alternative showing is accepted by the Commission. The uncertainties associated with whether the Commission will act to grant the alternative showing, together with the time and expense that accompany pursuit of an alternative showing, contribute to this disadvantage. This latter concern could be ameliorated by the opportunity we have provided to equipment manufacturers to seek prospective advice regarding whether equipment they plan to develop would meet the efficiency standard.[279] It remains the case, however, that our principal concerns[280] would not be mitigated by any invocation of this mechanism for prospective advice.

145. We also conclude that allowing the spectrum efficiency standard to sunset would not provide a sufficient solution to the problems with the efficiency standard that have been raised in the record. We believe that this is especially true in the case of small businesses that may be interested in competing for spectrum in the 220 MHz band and taking advantage of the flexible spectrum use that the Commission's rules permit for the band. We think it would be highly unlikely that businesses would be able to change equipment choices when little depreciation of the

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[277] Comtech, Request for Waiver of Rules Pertaining to 220 MHz Specialized Mobile Radio Systems, filed June 18, 1997.

[278] *Id*. at 3.

[279] *See 220 MHz Third Report and Order*, 12 FCC Rcd at 10999 (para. 118 n.212).

[280] *See* paras. 142-143, *supra*.

equipment's value would have occurred by the end of 2001. Thus, companies intending to aggregate channels would either be forced to acquire the spectrum now through the competitive bidding process an then "warehouse" the spectrum until termination of the standard, at which time they could invest in equipment designed to provide services such as paging on the aggregated channels, or they could operate on the spectrum now through the deployment of 5 kHz equipment, and then change out that equipment after the termination of the standard, notwithstanding the depreciation problems this would pose, in order to utilize aggregated channels. Neither choice seems very attractive, especially for small businesses.

146. With regard to INTEK's assertion that the Commission's goal in this proceeding has been to achieve a "careful balancing of equities" among competing carriers and manufacturers, we would insist that our primary goal in this or any proceeding is to formulate sensible policies that promote the public interest. To the extent that maintaining the 220 MHz spectrum efficiency standard has the effect of denying licensees the operational flexibility we provided them in the *220 MHz Third Report and Order*, we find that the standard satisfies this test, and we have determined to remove the standard on that basis.[281]

147. Although most of the debate in the record has focused on the standard for data, we are also eliminating the standard for voice. We can discern no reasonable legal or policy basis to make a distinction with respect to the application of a spectrum efficiency standard. Companies desiring to make innovative use of this spectrum for purposes other than paging will likewise be restricted in their ability to do so by a spectrum efficiency standard. Elimination of the standard will grant licensees seeking to provide voice services comparable flexibility to employ the type of technology that best meets their needs. As with 220 MHz licensees that provide data services, we are confident that licensees providing voice services will seek to ensure the success of their business plans by using the most spectrally efficient technologies to serve the maximum number of customers.

148. With regard to other related arguments raised in the record, we disagree with Glenayre's suggestion that we adopt a lenient standard that would become stricter over time.[282] If a stricter standard were phased in, and operators were permitted to continue using equipment they had acquired under the early, more lenient standard, the later standard would probably have little effect. In addition, the further a spectrum efficiency standard for this band stretches into the future, the more difficult judging its usefulness and appropriateness becomes. As we have stated, we believe business considerations are sufficient to induce 220 MHz band licensees to choose

[281] We note that our decision also renders moot the question of whether waiver requests regarding the standards should be subject to public comment, as INTEK requests. *See* INTEK Third Order Petition at 8-9. We therefore do not examine the arguments that have been advanced for and against such a policy.

[282] Glenayre Third Order Petition at 6. *See* paras. 116-117, *supra*.

spectrally efficient equipment, and it is not our intention to regulate licensees more closely than necessary.

149. In addition, we decline to adopt Rush's and Glenayre's proposal to borrow the efficiency standard from the Refarming proceeding and apply it to the 220 MHz band.[283] Commenters are correct that the Refarming policy was designed in the context of a long-established, congested band with much embedded equipment.[284] The 220 MHz band — a small sector of the radio spectrum, clear of incumbents using older, inefficient technology, in which the Commission has attempted to foster technological innovation — presents quite different circumstances and concerns. We conclude that the argument that application of an identical standard would boost equipment development in both bands, while superficially appealing, offers little benefit. Applying only to aggregated, contiguous channels, and expiring in 2001, the 220 MHz standard touches too few licensees for too short a time to significantly increase equipment development for the refarmed bands. Thus, we are not persuaded that conformance of the two standards would significantly promote the goals of either docket. We also note that nothing in the Refarming proceeding would preclude the use of 5 kHz equipment in refarmed bands.

10. Construction Requirements in Section 90.769 of Commission's Rules

150. In the *220 MHz Third Report and Order* the Commission established specific geographic or population-based service requirements that a nationwide Phase II licensee must satisfy by the end of 5- and 10-year benchmarks.[285] Comtech and Global seek clarification that Section 90.769 of the Commission's Rules, which establishes these construction benchmarks for Phase II nationwide licensees, does not apply to Phase I nationwide licensees.[286]

151. The discussion of the construction requirements in the *220 MHz Third Report and Order* for nationwide 220 MHz services clearly deals with the construction requirements that will be imposed on Phase II nationwide licensees.[287] In addition, the Commission added a heading to the Commission's Rules following Section 90.757 which reads: "POLICIES GOVERNING THE LICENSING AND USE OF PHASE II EA, REGIONAL AND NATIONWIDE

[283] *Id.* at 6-7; Rush Third Order Petition at 3-4. *See* para. 118, *supra*.

[284] *See* INTEK Third Order Comments at 5-6; SEA Third Order Comments at 8-9.

[285] *220 MHz Third Report and Order*, 12 FCC Rcd at 11017-19 (paras. 158-159).

[286] Comtech Third Order Petition at 12; Global Third Order Petition at 9.

[287] *220 MHz Third Report and Order*, 12 FCC Rcd at 11017-19 (paras. 158-159).

SYSTEMS."[288] In order to avoid any confusion on the part of Phase I licensees, however, we clarify that Section 90.769 of the Commission's Rules applies only to Phase II nationwide licensees and not to Phase I nationwide licensees and will amend the title of Section 90.769 accordingly.

11. Return of Pending Nationwide 220 MHz Service Applications

152. The Commission indicated in the *Third Notice* that it had not yet requested the amending information necessary to process the 33 pending Phase I applications for nationwide, non-commercial channels.[289] In the *Third Notice* the Commission therefore sought comment on three different means by which the Commission could address the pending applications.[290]

153. After considering the advantages and disadvantages of each of the proposals for handling the 33 pending Phase I nationwide, non-commercial applications, the Commission concluded, in the *220 MHz Third Report and Order*, that it was in the public interest to return the pending applications and the appropriate filing fees.[291] National points out, however, that the pertinent ordering clause in the *220 MHz Third Report and Order* states "that all pending nationwide . . . 220 MHz applications, together with the appropriate filing fees, will be returned to applicants, without prejudice."[292] National seeks partial reconsideration or clarification that the language in the ordering clause of the *220 MHz Third Report and Order* applies only to pending non-commercial, Phase I nationwide licenses and does not apply to any Phase I commercial, nationwide license application that may still be pending.[293]

154. The Commission's discussion and decision dealing with the return of 220 MHz pending nationwide applications in the *220 MHz Third Report and Order* dealt only with applications for non-commercial, nationwide licenses and did not include a consideration of pending commercial, nationwide 220 MHz applications.[294] We therefore take this opportunity to clarify that the language in the ordering clause (paragraph 345 of the *220 MHz Third Report and*

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[288] *Id.* at 11125 (Appendix B); 47 C.F.R. § 90.757.

[289] *Third Notice*, 11 FCC Rcd at 206 (para. 30).

[290] *Id.*

[291] *220 MHz Third Report and Order*, 12 FCC Rcd at 10949, 11038 (paras. 6, 197).

[292] *Id.* at 11090 (para. 354).

[293] National Third Order Petition at 1-5.

[294] *See 220 MHz Third Report and Order*, 12 FCC Rcd 11031-41 (paras. 183-206).

Order) did not apply to the then pending commercial, nationwide 220 MHz applications. We note, however, that the applications for nationwide, commercial 220 MHz licenses have since been dismissed.[295]

12. Acquisition of Multiple Nationwide Licenses

155. In the *220 MHz Third Report and Order*, the Commission decided not to impose any limit on the number of Phase II nationwide channel blocks that a licensee may acquire.[296] Comtech asks that the Commission amend its rules to permit entities to obtain more than one Phase I nationwide authorization.[297]

156. In the *Forty-Mile Rule Order*, which was adopted after Comtech filed its petition, the Commission repealed Section 90.739(a) of the Commission's Rules for all nationwide and non-nationwide Phase I 220 MHz licensees. This rule provided that a Phase I licensee could not obtain an additional license unless the licensee could demonstrate that an additional system would be justified on the basis of its communications requirements. Section 90.739 of the Commission's Rules[298] was revised to provide that there would be no limit on the number of licenses that may be authorized to a single 220 MHz service licensee. Therefore, no additional action is required by the Commission at this time.

13. Installment Payments

157. To encourage the participation of small businesses in the 220 MHz Service auction, in compliance with Section 309(j) of the Communications Act, the Commission made bidding credits and an installment payment plan available to them. Very small businesses, defined as entities that, together with affiliates and controlling principals, have average gross revenues that are not more than $3 million for the three preceding years, would receive a 25 percent bidding credit. Small businesses that, together with affiliates and controlling principals, have average gross revenues that are not more than $15 million for the three preceding years, would receive a 10 percent bidding credit.[299] In addition, licensees that qualify as small businesses or very small

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[295] *See* Public Notice, Commercial Wireless Division Dismisses Remaining Applications for Nationwide Commercial 220-222 MHz Private Land Mobile Licenses, DA 98-641 (Apr. 3, 1998).

[296] *220 MHz Third Report and Order*, 12 FCC Rcd at 10969 (para. 53).

[297] Comtech Third Order Petition at 3-4.

[298] 47 C.F.R. § 90.739.

[299] *220 MHz Third Report and Order*, 12 FCC Rcd at 11071 (para. 298). *See also* Section 90.1017(a) of the Commission's Rules, 47 C.F.R. § 90.1017(a).

businesses would be entitled to pay their winning bid amount in quarterly installments over the term of the license.[300]

158. In the *Part 1 Third Report and Order*, the Commission considered its use of installment payment plans for future auctions. On the basis of the record in that proceeding and the record developed on installment payment financing for the broadband PCS C block service and on recent decisions eliminating installment payment financing for LMDS and 800 MHz SMR, we concluded that, until further notice, the Commission should no longer offer such plans as a means of financing small businesses and other designated entities seeking spectrum licenses.[301] We note that this conclusion was subject to our request for comment in the Second Further Notice of Proposed Rulemaking portion of the *Part 1 Third Report and Order* on installment payment issues and means other than bidding credits and installment payments by which the Commission might facilitate the participation of small businesses in our spectrum auction program.[302] Consistent with this conclusion, we announced that the Commission would shortly suspend the use of installment payment financing for the 220 MHz Service auction.[303]

159. In light of our experience with installment payment plans in previous auctions as outlined in the *Part 1 Third Report and Order*, we conclude that it is in the public interest to eliminate installment payments in the 220 MHz Service auction. In order to facilitate the participation of small businesses by overcoming the barriers they face in mobilizing the necessary financial resources, however, we conclude that it is appropriate to increase the amount of the bidding credits available to small businesses and very small businesses.

160. We, therefore, will amend the Commission's rules to increase bidding credits for the 220 MHz Service, consistent with those established in the *Part 1 Third Report and Order*. Thus, small businesses with gross revenues not to exceed $15 million will receive a 25 percent bidding credit and very small businesses with gross revenues not to exceed $3 million will receive a 35 percent bidding credit. Based on our past auction experience, we believe that the level of these bidding credits will provide adequate opportunities for small businesses of varying sizes to participate in the 220 MHz Service auction.

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[300] *220 MHz Third Report and Order*, 12 FCC Rcd at 11072 (para. 301). *See also* Section 90.1017(d) of the Commission's Rules, 47 C.F.R. § 90.1017(d).

[301] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, 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, 398-400 (para. 40) (1997) (*Part 1 Third Report and Order*).

[302] *Id.* at 400 (para. 40).

[303] *Id.* at 401 (para. 43).

161. Next, we will amend Section 90.1015 of the Commission's Rules[304] to permit auction winners to make their final payments within ten (10) business days after the applicable deadline, provided that they also pay a late fee of 5 percent of the amount due, without being considered in default. This change will conform our 220 MHz rules with the generally-applicable Part 1 rules.[305]

162. The 220 MHz rules provide that winning bidders have ten (10) business days to make timely payment following notification that their licenses are ready to be granted. As we stated in the *Part 1 Third Report and Order*, we believe that in establishing an additional ten (10) business day period during which winning bidders will not be considered in default, we provide an adequate amount of time to permit winning bidders to adjust for any last-minute problems in arranging financing and making final payment. We decline to have a lengthier late payment period because we believe that extensive relief from initial payment obligations could threaten the integrity, fairness and efficiency of the auction process. A late fee of 5 percent is consistent with general commercial practice and provides some recompense to the Federal Government for the delay and administrative or other costs incurred. In addition, we believe that a 5 percent fee is large enough to deter winning bidders from making late payments and yet small enough so as not to be punitive. Therefore, applicants that do not submit the required final payment and 5 percent late fee within the 10-day late payment period will be declared in default and will be subject to the default payment specified in Section 1.2104(g).

163. We emphasize that our decision to permit late payments is limited to payments owed by winning bidders that have submitted timely initial down payments. We continue to believe that the strict enforcement of payment deadlines enhances the integrity of the auction and licensing process by ensuring that applicants have the necessary financial qualifications. In this connection, we believe that the *bona fide* ability to pay demonstrated by a timely initial down payment is essential to a fair and efficient auction process. Thus, we have not proposed to modify our approach of requiring timely submission of initial down payments that immediately follow the close of an auction. We believe that it is reasonable to expect that winning bidders timely remit their down payments given that it is their first opportunity to demonstrate to the Commission their ability to make payments toward their licenses. Similarly, we do not allow for any late submission of upfront payments, as to do so would slow down the licensing process by delaying the start of an auction.

164. Finally, we reiterate that the procedures set forth in Part 1, Subpart Q of the Commission's Rules apply to the Phase II 220 MHz service unless otherwise indicated in Part 90

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[304] 47 C.F.R. § 90.1015.

[305] *See Part 1 Third Report and Order*, 13 FCC Rcd at 428-30 (paras. 93-96) (amending Section 1.2109(a) of the Commission's Rules, 47 C.F.R. 1.2109(a)).

of the Commission's Rules.[306] We therefore clarify that applicants at the short- and long-form application stages are subject to the reporting requirements contained in the newly adopted Part 1 ownership disclosure rule.[307]

[306] *See* Section 90.1001 of the Commission's Rules, 47 C.F.R. § 90.1001.

[307] *See* Section 1.2112 of the Commission's Rules, 47 C.F.R. § 1.2112.

14. Other Issues

165. Petitions for reconsideration of the *220 MHz Third Report and Order* raise three additional issues concerning Phase I nationwide licensees. Two issues concern the construction benchmarks the Commission had previously set for Phase I licensees. Rush and Metricom contend that the Phase I construction requirements are onerous and unnecessary, and Comtech and Global particularly object to the requirement that Phase I licensees construct all 5 channels at a minimum number of base stations in specified urban areas.[308] The Phase I construction requirements, however, were not developed or addressed in the *220 MHz Third Report and Order*, and we therefore do not believe our reconsideration of that Order to be the appropriate place for us to examine these issues. Concerned parties might consider the option of filing a petition for rulemaking as provided in Section 1.401 of the Commission's Rules.[309]

166. In addition, Comtech, Global, and Rush request that the Commission cease requiring Phase I licensees to obtain specific site licenses for each of their base stations.[310] Again, these Phase I licensing rules were not the subject of the *220 MHz Third Report and Order*. We note that an independent record regarding this issue has already been created in response to a petition for declaratory ruling, and we believe it would be more appropriate to consider the question in the context of that proceeding.[311]

B. 220 MHz Second Report and Order Issues

1. Maximum Distance Relocation Limitations

167. In the *220 MHz Second Report and Order* the Commission adopted a one-time modification procedure that allows licensees to modify their licenses to relocate their authorized base stations to previously unauthorized locations. Under this procedure, licensees with base stations authorized inside any DFA were permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance

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[308] Rush Third Order Petition at 4-5; Metricom Third Order Petition at 3-6; Global Third Order Petition at 5-9; Comtech Third Order Petition at 13-14.

[309] 47 C.F.R. § 1.401.

[310] Comtech Third Order Petition at 11; Global Third Order Petition at 3-5; Rush Third Order Petition at 2-3.

[311] Comtech filed a Petition for Declaratory Ruling regarding this issue with the Wireless Telecommunications Bureau on October 31, 1995. On January 19, 1996, the Commission issued a Public Notice inviting comment and establishing a pleading cycle. *See* Public Notice, Commission Seeks Comment on Comtech Petition for Declaratory Ruling That Licensees of a Nationwide 220 MHz Mobile Communications System are Not Required to License Separately Each of the Systems' Base Stations, DA 96-38 (Jan. 19, 1996).

of 8 km.[312] Licensees with base stations authorized outside the boundaries of any DFA were permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance of 25 km, so long as they did not locate their base station more than 8 km inside the boundaries of any DFA.[313]

168. In their petitions, AMTA, SMR, and Incom contend that the *220 MHz Second Report and Order* is silent regarding the maximum allowable distance of a move from within a DFA to outside a DFA.[314] AMTA and SMR urge the Commission to clarify or reconsider its decision to allow moves up to a maximum distance of 25 km if the licensee is moving from a location within a DFA to a location outside that DFA and will not move into another DFA.[315] Incom asks that the Commission clarify its position to indicate that a licensee whose initially authorized site is located inside a DFA within 8 km of the perimeter and who seeks to modify to a location outside the DFA be permitted to move its site a maximum of 25 km.[316]

169. SMR asserts that licensees close to a DFA boundary moving outside the DFA into a more rural area are likely to face the same difficulties as a licensee already located outside a DFA in terms of finding alternative sites within a short distance.[317] AMTA and Incom argue that since licensees moving outside a DFA are moving away from the center of population they are unlikely to gain any increased population in their service area.[318] SMR further claims that, to the extent that a licensee is moving away from a more populated and presumably more valuable area, the effect would not be adverse to the interests of entities participating in any subsequent auction for 220 MHz service licenses.[319] Incom also argues that the *220 MHz Second Report and Order* contemplates that the defining element of a proposed modification which crosses a DFA boundary would be the ultimate location of the station.[320]

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[312] *220 MHz Second Report and Order*, 11 FCC Rcd at 3670 (para. 9).

[313] *Id.*

[314] AMTA Second Order Petition at 5; Incom Second Order Petition at 15; SMR Second Order Petition at 9.

[315] AMTA Second Order Petition at 6; SMR Second Order Petition at 9.

[316] Incom Second Order Petition at 15.

[317] SMR Second Order Petition at 9.

[318] AMTA Second Order Petition at 5-6; Incom Second Order Petition at 15.

[319] SMR Second Order Petition at 9.

[320] Incom Second Order Petition at 16.

170. The *220 MHz Second Report and Order* sets out a clear and unambiguous framework governing the maximum distance licensees will be permitted to move under the modification procedure. Under this framework, contrary to the assertions in the record, the defining element of a proposed modification is *not* the ultimate location of the base station — the defining element is based on the *initially authorized location*. Under the modification procedure the Commission adopted, licensees with base stations authorized *inside* any DFA are permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance of 8 km.[321] Licensees with base stations authorized *outside* the boundaries of any DFA are permitted to relocate their base stations up to one-half the distance over 120 km toward any authorized co-channel base station, to a maximum distance of 25 km.[322]

171. The *220 MHz Second Report and Order* provided for only one qualification to these two rules — if a licensee moves from a site outside a DFA to a site within a DFA, the licensee may relocate only 8 km inside a DFA boundary line.[323] The reason for this qualification is that the Commission concluded that a licensee seeking to relocate from outside a DFA to within a DFA would not require a 25 km radius to locate an available site. Moreover, the 8 km restriction was designed to prevent a licensee who chose to relocate from outside a DFA to within a DFA from having a greater geographic area within which to locate a new site than a licensee that is authorized within the DFA.

172. The Commission found that this modification procedure would enable 220 MHz licensees to provide service in the geographic area they are authorized to serve pursuant to their initial applications, while accommodating their need to relocate their base stations for technical or other legitimate factors.[324] The Commission reasoned that a licensee situated in a DFA should be able to find an alternative base station site within an 8 km radius due to the multiplicity of base station sites in urban areas.[325] On the other hand, the Commission concluded in the *220 MHz Second Report and Order* that the availability of sites in areas outside a DFA might be less numerous and, therefore, a licensee should be given a 25 km radius within which to find an alternative site.[326]

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[321] *220 MHz Second Report and Order*, 11 FCC Rcd at 3670 (para. 9).

[322] *Id.*

[323] *Id.*

[324] *Id.* at 3671 (para. 10).

[325] *Id.* at 3670-71 (paras. 8-9).

[326] *Id.*

173. The petitioners are asking that we reconsider the Commission's decision allowing moves up to a maximum distance of 8 km if the licensee is moving from a location within a DFA, and instead permit such a licensee to move to a location outside that DFA up to a maximum distance of 25 km. We conclude, however, that the purpose of the modification procedure established by the Commission was to enable 220 MHz licensees to carry out their initial business plans by finding a useable site within their planned area of service. It was not the intent of the Commission for the modification procedure to serve as an opportunity for the licensee to abandon its original plan to serve a particular area in favor of a more attractive or different service area. In our view, a licensee, who is presently authorized within a DFA, would have available to it the same multiplicity of base station sites within an 8 km radius as a licensee who is moving from a location within a DFA to another location within a DFA. There is no basis in the record for a different conclusion.

174. The fact that a licensee initially authorized in a DFA *chooses* to seek a new base station site outside its DFA should not entitle that licensee to be treated in the same manner as a licensee that was initially *authorized* outside a DFA, and therefore, presumably *requires* a larger area, *i.e.*, 25 km, within which to find a new base station site. Petitioners have not presented us with any compelling evidence as to why we should make an exception for this class of licensees. Therefore, we affirm the Commission's determination that a licensee with an authorized base station located in a DFA will be permitted to relocate its base station up to one-half the distance over 120 km toward any co-channel licensee's initially authorized base station, to a maximum distance of 8 km, regardless of whether the relocated base station site is inside or outside the boundaries of the DFA.

2. Non-Relocation Modifications

175. AMTA, SMR, and USMC generally comment favorably upon the Commission's decision in the *220 MHz Second Report and Order* to adopt relocation procedures which provide 220 MHz licensees with flexibility to relocate from sites that are no longer available.[327] Petitioners, however, ask that the Commission reconsider or clarify its decision to exclude modifications, other than site relocation modifications, from the procedures adopted in the *220 MHz Second Report and Order* and permit licensees to file modifications of operating parameters for their original or relocated facilities, including increases in their antenna height and power specifications up to maximum permitted values.[328]

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[327] *See* AMTA Second Order Petition at 6; SMR Second Order Petition at 4; USMC Comments at 3.

[328] AMTA Second Order Petition at 6-7; SMR Second Order Petition at 6.

176. AMTA, SMR, and USMC have various interpretations regarding what the *220 MHz Second Report and Order* actually provides regarding this issue. USMC interprets the *Order* as permitting a licensee who files a relocation modification to also apply for any other changes to its operating parameters at the new location, provided that it does not exceed the height and power limits set out in the Commission's rules.[329] USMC contends that the *220 MHz Second Report and Order* does not grant similar flexibility to a licensee that does not relocate.[330] Thus, USMC argues that the Commission's rules lead to an unintended and "absurd" result, forcing licensees to relocate if they were at otherwise sufficient locations but wanted to make changes to their height and power operating parameters in order to be able to provide better service.[331] SMR argues similarly that the *220 MHz Second Report and Order* unfairly discriminates against those licensees prepared to remain at their original locations but who need to modify certain specifications at their original site.[332] AMTA, on the other hand, seems to assume that the *220 MHz Second Report and Order* does not allow such changes even if the licensee is seeking to relocate.[333]

177. USMC argues that because co-channel separation distances are based on the maximum permissible height and power limits, any change within the limits will not cause harmful interference to other co-channel licensees and thus should be allowed.[334] AMTA and SMR assume that existing stations are likely to be protected under new rules based on the service contour that would result from a licensee operating at the maximum antenna height and power.[335] They argue that allowing such "minor" modifications will therefore have no effect on the amount of service area available to future auction participants.[336] SMR further argues that licensees cannot be expected to have foreseen that they would be restricted to the specifications on their original licenses and, therefore, to prevent licensees from modifying their licenses would be unfair and contrary to the public interest.[337]

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[329] USMC Second Order Comments at 3.

[330] *Id.*

[331] *Id.*

[332] SMR Second Order Petition at 3-4.

[333] *See* AMTA Second Order Petition at 6-7.

[334] USMC Second Order Comments at 3.

[335] AMTA Second Order Petition at 7; SMR Second Order Petition at 6, citing *Third Notice*, 11 FCC Rcd at 237 (para. 99).

[336] AMTA Second Order Petition at 7. *See also* SMR Second Order Petition at 6.

[337] SMR Second Order Petition at 4. *See also* AMTA Second Order Petition at 6-7.

178. SMR also claims that many of the licensees seeking such modifications already are providing service to the public pursuant to STA grants which have authorized these changes.[338] SMR contends that the Commission's rationale that it was not appropriate to force licensees who have constructed their systems at relocated sites pursuant to STAs to discontinue such service applies equally to licensees who have constructed at their original sites and obtained STAs to operate with different technical parameters.[339] SMR further contends that forcing existing licensees to either change existing operations or settle for inferior technical specifications at original sites would be contrary to the goal to enhance the competitive potential of 220 MHz services in the CMRS marketplace because 220 MHz licensees would be less able to compete with the providers of other commercial mobile services.[340]

179. In the *220 MHz Second Report and Order*, the Commission sought to accommodate Phase I licensees that "for various unforeseen reasons, . . . are unable to construct at their authorized locations" and therefore provided such licensees with the opportunity to seek modification of their licenses to relocate their base stations.[341] The *220 MHz Second Report and Order* did not provide for licensees to modify their authorizations for any other reason, such as to change their power or antenna height, since, as explained more fully below,[342] such a ruling would have gone beyond the specific purpose for which the *220 MHz Second Report and Order* was adopted. Furthermore, we disagree with USMC's interpretation that the *220 MHz Second Report and Order* allows licensees who seek to relocate also to make changes in these parameters.

180. We continue to believe that the modification procedure set out in the *220 MHz Second Report and Order* appropriately accommodates the needs of licensees who were unable to construct at their authorized locations. The intention of the Commission in the *220 MHz Second Report and Order* was to craft carefully and narrowly drawn relocation parameters to provide relief to existing licensees but not to allow them to enhance their position in the marketplace. The interest of the Commission in establishing precise and narrow criteria was heightened by the fact that the Commission also had decided to take the unusual step of allowing these licensees to file modification applications without providing an opportunity for other potential applicants to file competing initial applications.[343] In light of these considerations, we find no basis for any general

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[338] SMR Second Order Petition at 5.

[339] *Id.*

[340] *Id.* at 5-6.

[341] *220 MHz Second Report and Order*, 11 FCC Rcd at 3669 (para. 4).

[342] *See* para. 180, *infra*.

[343] *See 220 MHz Second Report and Order*, 11 FCC Rcd at 3669 (para. 4).

extension of the modification parameters to include changes to antenna height and power at a licensee's originally authorized location. We note, however, that, as discussed above,[344] licensees who decided not to relocate under the procedures announced in the *220 MHz Second Report and Order* will be permitted to make changes to their technical parameters as long as such modifications do not expand their 38 dBu service contour.

181. In addition, as a practical matter, because it is highly unlikely that a licensee who relocates its base station will be able to install its antenna at the identical height above average terrain specified in its existing authorization, we clarify that licensees seeking to relocate are also permitted to modify their antenna height above average terrain. On the other hand, it would not be necessary for a licensee who relocates to operate at the new site at a different power level, and thus the *220 MHz Second Report and Order* does not allow a licensee who relocates to change its power level.[345]

182. If, however, as a result of raising the antenna height, the height and power combination exceeds the provisions of the ERP vs. Antenna Height Table in Section 90.729 of the Commission's Rules,[346] the rules require that the licensee's authorized power shall be reduced accordingly so that the operations of the licensee remain in compliance with the provisions of that section. Any applicant seeking to relocate and to alter operating power levels is permitted to relocate (if the application is in conformance with applicable rules), but the *220 MHz Second Report and Order* does not establish any authorization pursuant to which the applicant may alter operating power levels. We note that after a licensee relocates in accordance with the Commission's modification procedures and establishes its 38 dBu service contour, the licensee, as outlined in paras. 95-106, *supra*, will be able to make changes to its authorization, including its power level, provided that doing so does not expand its 38 dBu service contour.

183. As for licensees who were granted STAs at their original locations but at increased height or power, those STAs were granted only on a temporary basis, and they conferred no guarantee that the licensee would be able to obtain a permanent authorization in accordance with those changes. In addition, a licensee with an STA to operate at different height or power parameters would not be precluded from offering service if the licensee is not granted permanent authorization at those parameters. Only the coverage area would be altered.

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[344] *See* paras. 97-98, *supra*.

[345] We note that if a licensee who did not seek to relocate believed it was impossible to remain at the same antenna height above average terrain at the original location there is nothing in the *220 MHz Second Report and Order* that would prevent such a licensee from applying for a waiver of the Commission's rules.

[346] 47 C.F.R. § 90.729.

184. Finally, we note that petitioners base their arguments in part on the assumption that existing stations are likely to be protected under new Phase II rules based on a service contour.[347] AMTA cites the 800 MHz and 900 MHz SMR bands as cases in which the Commission has chosen to protect incumbent licensees to their 22 dBu or 40 dBu contours.[348] Petitioners further assert that such protection is likely to be based on maximum allowable height and power.[349] In fact, the protection afforded Phase I licensees by future Phase II licensees has been addressed by the Commission in the *220 Mhz Third Report and Order*,[350] where the Commission determined that Phase I licensees would be protected to their 38 dBu service contour based on *actual*, as opposed to maximum, height and power. We have affirmed that decision in this Order.[351]

3. Special Temporary Authority

185. In the *220 MHz Second Report and Order* the Commission recognized that a number of licensees had obtained STAs to operate base stations at alternative locations and that some of these locations would not meet the permissible modification requirements established in the *220 MHz Second Report and Order*.[352] The Commission believed that it would not be appropriate to require licensees to discontinue operations if they had obtained STAs to operate at alternate locations and were currently operating or planning to operate at such locations.[353]

186. The *220 MHz Second Report and Order* therefore provided that a licensee who had been granted an STA to operate at an alternative site would be permitted to seek permanent authorization at the STA site if the licensee certified that it had (1) constructed its base station and placed the base station in operation, or commenced service at that site; or (2) taken delivery of its base station transceiver on or before the adoption date of the *220 MHz Second Report and Order*.[354] The Commission provided that such licensees were permitted to seek permanent

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[347] AMTA Second Order Petition at 7; SMR Second Order Petition at 6.

[348] AMTA Second Order Petition at 7 n.4.

[349] *Id.* at 7; SMR Second Order Petition at 6.

[350] *220 MHz Third Report and Order*, 12 FCC Rcd at 11026 (para. 174).

[351] *See* paras. 97-98, *supra*.

[352] *220 MHz Second Report and Order*, 11 FCC Rcd at 3673 (para. 15).

[353] *Id*.

[354] *Id.* at 3673 (paras. 15-16).

authorization at the STA site regardless of whether locating at the STA site would be in strict conformance with the relocation distance limitations prescribed in the modification procedure.[355]

187. The petitioners ask the Commission to reconsider or clarify that licensees who filed STA requests not later than the adoption date of the *220 MHz Second Report and Order* and were granted STAs after January 26, 1996 (the adoption date of the *220 MHz Second Report and Order*), and who otherwise meet the relocation requirements of Section 90.753(c)(2) of the Commission's Rules, will be allowed to seek permanent authorization at their STA sites.[356] Incom concludes that a licensee who had constructed its base station and had placed it in operation or commenced service as of January 26, 1996, must have been granted an STA by January 26, 1996 — otherwise operation at that site would be in contravention of the Commission's Rules.[357] Petitioners claim, however, that it is not clear whether licensees who had only taken delivery of base station transceivers by January 26, 1996, must also have been granted STAs by that date.[358]

188. Petitioners argue that the Commission's speed in processing one STA compared to another is out of the licensee's control and provides no basis for distinguishing among licensees.[359] PERS contends that it is long-standing Commission policy that similarly situated applicants must be treated similarly under the rules.[360] Petitioners also claim that by imposing a cut-off based solely on the grant of an STA request, two similarly situated applicants for modification based on STA requests filed on the same day could be treated dissimilarly, determined only by the timing of the Commission's review of the STA request.[361] Petitioners contend that such disparate treatment could be construed as arbitrary and capricious, and argue that the Commission has typically

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[355] *Id.*

[356] AMTA Second Order Petition at 8; Incom Second Order Petition at 6, 9-10; PERS Second Order Petition at 6-7; SMR Second Order Petition at 8.

[357] Incom Second Order Petition at 7.

[358] *See* AMTA Second Order Petition at 8; Incom Second Order Petition at 7; PERS Second Order Petition at 2-3; SMR Second Order Petition at 7.

[359] *See* AMTA Second Order Petition at 8; Incom Second Order Petition at 8; PERS Second Order Petition at 3-4; SMR Second Order Petition at 8.

[360] PERS Second Order Petition at 4.

[361] *See* AMTA Second Order Petition at 8; Incom Second Order Petition at 8; PERS Second Order Petition at 4; SMR Second Order Petition at 8.

triggered a moratorium on acceptance of applications, or instituted cut-offs, based upon a deadline for filing applications.[362]

189. Incom also contends that since STAs are generally processed expeditiously, under industry practice it is common for preparatory construction work to be done prior to submitting an STA request.[363] Thus, according to Incom, licensees who took delivery of equipment prior to January 26 and whose STAs were pending at the Commission but not granted by that date have frequently devoted the same time and effort to the construction process as licensees whose STAs were granted by January 26, 1996.[364] Furthermore, PERS states that all of the licensees whose systems are managed by PERS have already constructed or are in the process of constructing their base station facilities and are able to begin providing service to the public.[365] PERS claims that if these licensees are not allowed to file for permanent authorizations at their STA sites and begin providing service to the public, it would undermine the Commission's goal of providing valuable service to the public in the most efficient manner.[366]

190. We conclude, notwithstanding the claims made in the record, that it was the Commission's intent in the *220 MHz Second Report and Order* that the relief provided for licensees operating under STAs be restricted to those licensees who had been granted STAs on or before January 26, 1996. The Commission made this clear, for example, in the provisions of the *220 MHz Second Report and Order* dealing with STAs, by referring to licensees who "have obtained" STAs.[367] In addition, the *220 MHz Second Report and Order* provides that "any

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[362] *See* Incom Second Order Petition at 9-10. Incom cites the 900 MHz service, in which the Commission granted primary site status to all pending 900 MHz applications filed as of August 9, 1994, rather than restricting such relief to those applications granted as of that date. Incom also references the Commission's moratorium on the acceptance for filing of 929 MHz and 930 MHz applications, based on the filing date. *See also* PERS Second Order Petition at 4 n.6. PERS cites (1) the setting of a filing cut-off for 220 MHz applications as of the date filed; (2) the freezing of acceptance of applications in the 800 MHz specialized mobile radio services as of August 9, 1994; (3) granting 900 MHz licensees primary status for their secondary sites as of the date the applications were filed rather that the date granted; (4) the *Part 22 Rewrite Order*, in which the Commission provided for the reconsideration of dismissed applications in light of new application procedures taking effect while petitions for reconsideration or applications for review are still pending. *See* Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, CC Docket No. 92-115, Report and Order, 9 FCC Rcd 6513 (1994) (*Part 22 Rewrite Order*).

[363] Incom Second Order Petition at 9.

[364] *Id.*

[365] PERS Second Order Petition at 5.

[366] *Id.*

[367] *220 MHz Second Report and Order*, 11 FCC Rcd at 3672-73 (paras. 13, 15).

licensee that *has been granted* an STA to operate at an alternative site" will be permitted to seek permanent authorization at that site in accordance with the procedures for filing modification applications established in the *Order* if the licensee has constructed its base station and has placed it in operation, or commenced service at that site,[368] or has taken delivery of its base station transceiver on or before the adoption date of the *220 MHz Second Report and Order*.[369]

191. We find no basis to conclude that the January 26, 1996, deadline is arbitrary or capricious. The Commission grants STAs to licensees upon a showing of need. Prior to January 26, 1996, the Commission granted STAs because 220 MHz licensees would have been unable to operate at base station sites other than their initially authorized locations, because the Commission had not yet announced final modification rules for the 220 MHz service. As of January 26, 1996, the final modification and relocation procedures had been announced and thus there no longer was any need for an STA.[370] After that date it would have only been necessary to issue an STA in order to meet a licensee's needs in an emergency situation.

192. Petitioners speculate that two similarly situated applicants who filed for STAs on the same date could be treated dissimilarly if one was granted an STA on or before January 26, 1996, and the other was granted an STA after January 26.[371] None of the petitioners, however, presents evidence of a situation in which this actually occurred. Furthermore, as the Commission has previously pointed out, when this issue was first raised in the United States Court of Appeals for the District of Columbia, in an Opposition to an Emergency Motion for Stay, "[t]he Land Mobile Branch quickly approved petitioners' [STA] applications (and every other application received by it on January 26 or filed on January 25) on the next business day, January 29."[372] None of these applications was granted on or before January 26.

193. Petitioners cite several cases in which the Commission established a cut-off date based on the filing of an application rather than on the grant of the application.[373] Incom cites the 900 MHz service, in which the Commission granted primary site status to all pending 900 MHz

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[368] *Id.* at 3673 (para. 15) (emphasis added).

[369] *Id.* at 3673 (para. 16).

[370] STAs are always available to meet a licensee's needs in emergency situations.

[371] *See* AMTA Second Order Petition at 8; Incom Second Order Petition at 8; PERS Second Order Petition at 4; SMR Second Order Petition at 8.

[372] Opposition of the FCC to Petitioner's Emergency Motion for Stay, Case No. 96-1133, Motion filed Apr. 24, 1996, Opposition filed Apr. 29, 1996, at 18.

[373] *See* Incom Second Order Petition at 9-10. *See also* PERS Second Order Petition at 4 n.6.

applications filed as of August 9, 1994, rather than restricting such relief to those applications granted as of that date.[374] Incom also references the Commission's moratorium on the acceptance for filing of 929 MHz and 930 MHz applications, based on the filing date.[375] All of the cases cited by petitioners, however, are distinguishable from the situation presented here. None of the cases cited involved STAs. STAs are issued in circumstances in which there is a need for special action and are always limited to a temporary authorization. All of the cited cases involved either license applications or applications for secondary authorizations. Furthermore, none of these cases involved the special circumstances present in this case, namely, that once the final modification and relocation procedures had been announced on January 26, 1996, licensees no longer had a need to obtain an STA.

194. As to those licensees who took delivery of their equipment and expended time and resources preparing their STA site for construction, but who waited to apply for an STA until late January, we note that an STA does not guarantee any right to obtain permanent authorization at the STA site. Further, there was no guarantee in the *Fourth Notice* that licensees who had been granted STAs would be able to relocate at their STA sites. While pre-grant construction may not be an uncommon practice, the Commission's rules provide that licensees who construct prior to receiving an authorization do so at their own risk.[376] Licensees were able to apply for STAs at any time during the planning or construction of their base stations. They had no reason to delay filing their STA applications. At the time the *220 MHz Second Report and Order* was released the construction deadline was February 2, 1996. The Commission's regulations caution applicants to file STA applications at least 10 days prior to the date of proposed operation.[377] Therefore, a licensee who filed an STA application after January 23, 1996, could not reasonably have expected to receive an STA prior to the construction deadline.

195. For these reasons, we conclude that a licensee who had taken delivery of its base station transceiver on or before January 26, 1996, must have been granted an STA on or before January 26, 1996, in order to be allowed to seek permanent authorization at its STA site. We note that licensees who were not granted STAs on or before January 26, 1996, were permitted to modify their base station locations in accordance with the relocation rules set forth in Sections 90.753(a) and 90.753(b) of the Commission's Rules.[378]

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[374] Incom Second Order Petition at 10 n.3.

[375] *Id.* at 10.

[376] *See* Section 90.169(c) of the Commission's Rules, 47 C.F.R. § 90.169(c).

[377] *See* Section 90.145 of the Commission's Rules, 47 C.F.R. § 90.145.

[378] 47 C.F.R. §§ 90.753(a), 90.753(b).

4. Alternative Site Proposals

196. While the *220 MHz Second Report and Order* acknowledged that the modification procedure outlined in the *220 MHz Second Report and Order* would accommodate most 220 MHz licensees needing to relocate their base stations, the *220 MHz Second Report and Order* also recognized that in certain areas of the Nation it is possible that the technical characteristics of base station sites available under the relocation procedure may be considerably inferior to the technical characteristics of currently licensed sites and sites that may exist at nearby, more elevated locations.[379] In these cases, the Commission contemplated that licensees would seek a waiver of the modification procedures the Commission adopted in the *220 MHz Second Report and Order*.[380] AMTA and Incom express concern that the *220 MHz Second Report and Order* did not provide for a protection mechanism or for a tolling of the construction period for licensees filing such waiver requests.[381] They argue that if a waiver request is ultimately denied, a licensee would lose its authorization for failure to construct by March 11, 1996.[382]

197. Incom claims that such a result would deter licensees from seeking a waiver.[383] Petitioners therefore request that the Commission permit waiver applications to include an alternative site proposal which complies with the Commission's rules, and that the Commission give licensees additional time to construct at the alternative site if the waiver request is denied.[384] Petitioners argue that allowing such an alternative showing would be consistent with the recognition in the *220 MHz Second Report and Order* that alternative, albeit inferior sites may exist.[385] Petitioners also assert that such an alternative showing procedure is utilized for all public mobile services governed by Part 22,[386] and Incom argues that the Budget Act of 1993[387] would

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[379] *220 MHz Second Report and Order*, 11 FCC Rcd at 3671 (para. 11).

[380] *Id.*

[381] AMTA Second Order Petition at 9; Incom Second Order Petition at 11-12.

[382] AMTA Second Order Petition at 9; Incom Second Order Petition at 13.

[383] Incom Second Order Petition at 14.

[384] AMTA Second Order Petition at 9-10; Incom Second Order Petition at 12-15.

[385] AMTA Second Order Petition at 9-10; Incom Second Order Petition at 13.

[386] AMTA Second Order Petition at 9 n.5; Incom Second Order Petition at 12.

[387] Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(d)(3)(B), 107 Stat. 312, 397 (1993) (Budget Act).

appear to require the Commission to extend the Part 22 waiver standard to the 220 MHz service since they are substantially similar services.[388]

198. Section 1.958 of the Commission's Rules provides that "[r]equests for waiver must . . . set forth reasons in support thereof including a showing that unique circumstances are involved and that there is no reasonable alternative solution within existing rules."[389] The *220 MHz Second Report and Order* provided that if a licensee believed that, due to unique terrain features, it wanted to apply for a waiver of the modification procedures established in the *220 MHz Second Report and Order*, it could choose to do so.[390] In the *220 MHz Second Report and Order* the Commission posed a clear and reasonable choice for 220 MHz licensees. The Commission did not provide licensees with the option of applying for a waiver while at the same time allowing them to attempt to retain their option to construct at an alternate, although inferior, site which complies with the rules.

199. Petitioners note that licensees may utilize an alternative showing procedure when applying for a waiver of the rules contained in Part 22.[391] Such a procedure is specifically provided for in Section 22.119 of the Commission's Rules, which also specifies the showing required for a waiver of Part 22 Rules.[392] We note, however, that there is *no* parallel provision for alternative showing procedures for services licensed under Part 90 of the Commission's Rules. Under the Commission's general waiver rule for services licensed under Part 90, a waiver applicant must show that no reasonable alternative exists within existing rules.[393] Furthermore, the standard for granting waiver requests, as set forth in *Wait Radio*, is that "the very essence of waiver is the assumed validity of the general rule, and also the applicant's violation unless waiver is granted."[394] Thus, a licensee seeking a waiver of the Commission's rules to locate its base station at a site not permitted under the modification procedure must, in order to apply for a waiver, have no alternative available under the rules. If a licensee is able to offer an alternative relocation site, then, it could be argued that there is no reasonable basis for a waiver.

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[388] Incom Second Order Petition at 12 n.5.

[389] 47 C.F.R. § 1.958.

[390] *220 MHz Second Report and Order*, 11 FCC Rcd at 3671 (para. 11).

[391] AMTA Second Order Petition at 9 n.5; Incom Second Order Petition at 12.

[392] 47 C.F.R. § 22.119.

[393] Section 1.958 of the Commission's Rules, 47 C.F.R. § 1.958.

[394] Wait Radio v. FCC, 418 F.2d 1153, 1158 (D.C. Cir. 1969).

200. Therefore, a 220 MHz licensee seeking a waiver would need to show that site alternatives within the parameters of the Commission's relocation rules would be so inferior that they would preclude a viable system. To decide otherwise and permit licensees to make alternative site showings would not be consistent with this rule and also would impair one of the policy objectives set forth in the *220 MHz Second Report and Order*, *i.e.*, to provide existing licensees flexibility to complete construction of their systems and provide service while not unreasonably impairing the opportunity of potential competitors to obtain licenses in the 220 MHz service.[395] We believe that we provided sufficient flexibility to incumbent licensees by permitting them to relocate their base stations while at the same time insulating them from any competing filings by new applicants. To go further, as petitioners urge us to do, would risk an adverse impact on the competitive development of the 220 MHz service.

201. The Commission provided licensees with a reasonable framework for modifying their base station locations, and petitioners, in our view, have not presented persuasive arguments that the Commission should now change that framework to allow for alternative site proposals to accompany waiver requests. Furthermore, since we are affirming that licensees may not file alternative location proposals with a waiver request, we do not need to reach the question of whether we will allow licensees whose waiver requests are denied a reasonable period of time to construct their facilities at an alternative site. We note, however, that in the *220 MHz Second Report and Order* The Commission stated that the Commission will extend the deadline for a licensee to construct its station and place it in operation, or commence service, beyond August 15, 1996, by the number of days after June 1, 1996, that pass before a licensee's timely filed modification application is actually granted.[396] Therefore, a licensee who is granted a waiver after June 1, 1996, will have an adequate period of time to construct its station.

5. Other Waiver Issues

202. As we have discussed,[397] in the *220 MHz Second Report and Order* the Commission acknowledged that the modification procedure adopted therein would accommodate most 220 MHz licensees who need to relocate their base stations.[398] The *220 MHz Second Report and Order*, however, also recognized that in certain areas it may be possible that the technical characteristics of base station sites available under the modification procedure may be considerably inferior to the technical characteristics of currently licensed sites and sites that may

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[395] *220 MHz Second Report and Order*, 11 FCC Rcd at 3668 (para. 2).

[396] *Id.* at 3674 (para. 23).

[397] *See* para. 172, *supra*.

[398] *220 MHz Second Report and Order*, 11 FCC Rcd at 3671 (para. 11).

exist at nearby, more elevated locations.[399] The Commission pointed out that such a scenario could exist, for example, in the Los Angeles or Seattle areas.[400] Therefore, the Commission stated that it would be appropriate to entertain waiver requests by licensees authorized in the Los Angeles and Seattle areas, as well as any other urban areas with comparable terrain features.[401]

203. In Touch expresses concern that the *220 MHz Second Report and* Order mentions only those waiver requests based on elevation differentials unique to certain DFAs, such as Los Angeles and Seattle.[402] In Touch asks that the Commission clarify that waiver requests of the 8 km limitation based on unique DFA terrain issues other than simple elevation differentials of the site location will be accepted.[403] In support of its request In Touch asserts that in Atlanta, Stone Mountain is situated in the middle of one side of the original service area for a number of Atlanta licensees, and therefore relocation outside the 8 km limitation is required.[404]

204. In Touch also contends that inside the Atlanta DFA there are substantial rural areas where the licensee's original site is not available and no other available sites exist within 8 km.[405] In Touch therefore requests that the Commission reconsider or clarify that waiver requests of the 8 km relocation limitation will also be permitted to include situations where the licensee can demonstrate that there are no existing antenna sites available to it within the 8 km limitation.[406]

205. In Touch correctly points out that the *220 MHz Second Report and* Order does specifically mention one particular type of waiver request that the Commission will consider. There is nothing in the *220 MHz Second Report and Order*, however, that would prevent a licensee from seeking an appropriate and timely waiver of the Commission's rules if the licensee believes it has met the Commission's standard for waiver.[407] By mentioning one type of situation

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[399] *Id.*

[400] *Id.*

[401] *Id.*

[402] In Touch Second Order Petition at 2.

[403] *Id.*

[404] *Id.*

[405] *Id.*

[406] *Id.* at 2-3.

[407] *See* Section 90.151 of the Commission's Rules, 47 C.F.R. § 90.151.

in the *220 MHz Second Report and* Order that the Commission believes may be appropriate for a waiver, the Commission did nothing to preclude other types of waiver situations. Therefore, we believe that no additional clarification is required on this point.

IV. PROCEDURAL MATTERS

A. Regulatory Flexibility Act

206. As required by the Regulatory Flexibility Act, the Commission has prepared a Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) of the possible impact on small entities of the rules adopted in this Memorandum Opinion and Order on Reconsideration.[408] The Supplemental FRFA is set forth as Appendix C. The Office of Public Affairs, Reference Operations Division, will send a copy of the Memorandum Opinion and Order on Reconsideration, including the Supplemental FRFA, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act.

B. Paperwork Reduction Act

207. This Order contains new information collection requirements that the Commission is submitting to the Office of Management and Budget requesting emergency clearance under the Paperwork Reduction Act.

C. Further Information

208. For further information concerning this rulemaking proceeding contact Marty Liebman, Mary Woytek, or Jon Reel, Policy Division at (202) 418-1310, or Frank Stilwell, Auctions and Industry Analysis Division, at (202) 418-0660, Wireless Telecommunications Bureau, Federal Communications Commission, Washington, D.C. 20554.

V. ORDERING CLAUSES

209. Accordingly, IT IS ORDERED, that the petitions for reconsideration or clarification filed by American Mobile Telecommunications Association; Incom Communications Corporation, SEA, Inc., In Touch Services, Inc., Philip Adler dba Communications Management Company, and Aircom Communications, Inc.; In Touch Services, Inc.; Police Emergency Services, Inc. and Bostom and Associates Company; and SMR Advisory Group, L.C. with respect to the *220 MHz Second Report and Order* in PR Docket No. 89-552 and GN Docket No. 93-252, ARE GRANTED to the extent provided herein and otherwise ARE DENIED. This action is taken

[408] 5 U.S.C. § 604.

pursuant to Sections 4(i), 4(j), 303(d), 303(r), 309(j), 332, and 405 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 154(j), 303(d), 303(r), 309(j), 332, 405.

210. IT IS FURTHER ORDERED, that the petitions for reconsideration or clarification filed by American Mobile Telecommunications Association, Inc.; Comtech Communications, Inc.; Glenayre Technologies, Inc.; Global Cellular Communications, Inc.; INTEK Diversified Corp.; Metricom, Inc.; National Communications Group, Capital Communications Group, Columbia Communications Group, Lonesome Dove Communications, All-American Communications Partners, and Shiner Bock Group; Personal Communications Industry Association; SEA Inc.; Rush Network Corp.; and SMR Advisory Group L.C. with respect to the *220 MHz Third Report and Order* in PR Docket No. 89-552 and GN Docket No. 93-252, ARE GRANTED to the extent provided herein and otherwise ARE DENIED. This action is taken pursuant to Sections 4(i), 4(j), 303(d), 303(r), 309(j), 332, and 405 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 154(j), 303(d), 303(r), 309(j), 332, 405.

211. IT IS FURTHER ORDERED that the Commission's Rules ARE AMENDED as set forth in Appendix D. IT IS FURTHER ORDERED that the provisions of this Order and the Commission's Rules, as amended in Appendix D, SHALL BECOME EFFECTIVE 60 days after publication of this Order in the Federal Register.

212. IT IS FURTHER ORDERED that a Public Notice will be issued by the Wireless Telecommunications Bureau following the adoption of this Order announcing when applications must be filed by Phase I, non-nationwide licensees in order to enable such licensees to comply with the requirement that they modify their authorization to reflect the ERP at which they were operating at the time the decisions adopted in the *220 MHz Third Report and Order* became effective.

213. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of this Order, including the Supplemental Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of

Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service	)	PR Docket No. 89-552 RM-8506
Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services	)	GN Docket No. 93-252
Implementation of Section 309(j) of the Communications Act -- Competitive Bidding	)	PP Docket No. 93-253

THIRD REPORT AND ORDER; FIFTH NOTICE OF PROPOSED RULEMAKING

Adopted: February 19, 1997 **Released: March 12, 1997**

Comments Due: April 15, 1997 Reply Comments Due: April 30, 1997

By the Commission: Chairman Hundt approving in part, dissenting in part, and issuing a statement; Commissioners Ness and Chong issuing separate statements.

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APPENDICES

THIRD REPORT AND ORDER

I. INTRODUCTION

1. By this Third Report and Order, we adopt rules to govern the future operation and licensing of the 220-222 MHz band (220 MHz service). This action is taken as part of our continuing implementation of the regulatory framework for mobile radio services enacted by Congress in Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, which amended Sections 3(n) and 332 of the Communications Act of 1934.[1] As part of the implementation of the Budget Act, we initiated a series of rulemaking proceedings to provide guidelines for the regulation of commercial and private mobile radio services, including the 220 MHz service, consistent with the policy of regulatory symmetry as reflected in the revisions to Section 332 of the Act.

2. One of our actions resulting from these proceedings, the *CMRS Third Report and Order* in GN Docket No. 93-252,[2] addressed a variety of issues relating to the licensing of the 220 MHz service, but deferred a detailed examination of that service to a separate rulemaking proceeding. That proceeding was initiated by the adoption of the Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking in PR Docket No. 89-552 (*Third Notice*),[3] where we proposed a new licensing plan for 220 MHz service. The Third Report and Order adopted today generally establishes that proposal for the Phase II[4] licensing of the 220-222 MHz band, with some modifications that we discuss in the following sections.

3. As stated in the *Third Notice*, our goal is to establish a flexible regulatory framework that will allow for the efficient licensing of the 220-222 MHz band, eliminate unnecessary regulatory burdens on both Phase I and Phase II licensees, and enhance the competitive potential of the 220 MHz service in the mobile services marketplace.[5] We believe that the adoption of the rules set forth in today's Order will enable us to continue to promote the development of

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[1] Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, §§ 6002(b)(2)(A), 6002(b)(2)(B), 107 Stat. 312, 392 (1993) (Budget Act). Section 3(n) of the Communications Act has been redesignated as Section 3(14). *See* Section 3(c)(4) of the Telecommunications Act of 1996. The reference to former Section 3(n) in Section 332 has been changed to a reference to Section 3. *See* Section 3(d)(2) of the Telecommunications Act of 1996.

[2] Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Third Report and Order, 9 FCC Rcd 7988 (1994) (*CMRS Third Report and Order*), *recon. pending*.

[3] Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, and Implementation of Section 309(j) of the Communications Act--Competitive Bidding, 220-222 MHz, PP Docket No. 93-253, Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, 11 FCC Rcd 188 (1995) (*Third Notice*).

[4] We refer herein to licenses granted pursuant to this new framework as Phase II licenses. Licenses granted under the rules that existed prior to the adoption of this Order are referred to herein as Phase I licenses.

[5] *Third Notice*, 11 FCC Rcd at 193 (para. 2).

advanced radio technologies, while making the widest variety of mobile communications services available to the American public.

4. In the Fifth Notice of Proposed Rulemaking, we propose to permit Phase I nationwide licensees to partition their licenses. We also seek comment on whether to permit and how to implement spectrum disaggregation for both Phase I and Phase II licensees.

II. EXECUTIVE SUMMARY

5. The following is a summary of the rules adopted in this Order for Phase II licensing of the 220-222 MHz band:

A. NATIONWIDE LICENSING

6. We will return the pending, mutually exclusive applications for the four non-commercial, Phase I nationwide licenses and adopt a new licensing procedure for the 30 channels associated with these licenses. The Phase II licensing of these channels will be governed by the following rules:

- The 30 channels will be licensed on a nationwide basis to all applicants -- *i.e.*, applicants that intend to use the channels to offer commercial services as well as applicants that intend to use the channels for their private, internal use.

- The channels will be assigned, in the form of three 10-channel authorizations, through competitive bidding, based upon our conclusion that the principal use of the spectrum will be for the provision of for-profit, subscriber-based services.

B. NON-NATIONWIDE LICENSING

7. We will assign Phase II, non-nationwide 220 MHz channels in the following manner:

- Fifty channels in 175 geographic areas defined as Economic Areas by the Bureau of Economic Analysis, Department of Commerce (``EA licenses'') and 75 channels in the geographic areas defined by six ``Regional Economic Area Groupings'' (``Regional licenses'') as follows:

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN

EA BLOCK	CHANNELS
A: Channel Groups[6] 2, 13	10
B: Channel Groups 3, 16	10
C: Channel Groups 5, 18	10
D: Channel Groups 8, 19	10
E: Channels 171-180	10
TOTAL	**50**

REGIONAL BLOCK	CHANNELS
F: Channel Groups 1, 6, 11	15
G: Channel Groups 4, 9, 14	15
H: Channel Groups 7, 12, 17	15
I: Channel Groups 10, 15, 20	15
J: Channels 186-200	15
TOTAL	**75**

- We make these channels available to all eligible applicants, and we resolve mutually exclusive applications for these channels through competitive bidding.
- We permit EA and Regional licensees to operate stations anywhere within their geographic borders, provided that their transmissions do not exceed a predicted field strength of 38 dBuV/m at their border, and they protect the base stations of Phase I licensees in accordance with the existing co-channel separation criteria for 220 MHz stations.
- We provide a 10-year license term for EA and Regional licensees, and we require EA and Regional licensees to meet five- and ten-year construction benchmarks.
- We continue to assign, on a single-station basis, 10 channels to applicants eligible in the Public Safety Radio Services (PSRS) and five channels to applicants eligible in the Emergency Medical Radio Service (EMRS) to meet internal communications needs.
- We assign five of the 10 PSRS channel pairs on a shared basis to all public safety eligibles.

[6] The Channel Groups indicated in the allocation plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3" *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

In so doing, we enable public safety licensees within a particular geographic area to share these channels and coordinate the location and operation of base stations on these channels, which will enable them to communicate more effectively with each other during emergencies.

- We assign channels in the PSRS and EMRS pools on a first-come, first-served basis and resolve mutually exclusive applications by random selection procedures.

C. PAGING OPERATIONS; CHANNEL AGGREGATION

- We allow Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees to operate paging systems without the requirement that such use be on an ancillary basis to land mobile operations.

- We allow Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees, to aggregate any of their contiguous 5 kHz channels and operate on channels wider than 5 kHz, so long as they comply with the prescribed spectrum efficiency standard.

D. OTHER ISSUES

1. Technical and Operational Matters

8. We modify our existing 220 MHz rules with regard to certain technical and operational matters as follows:

- We allow Phase I and Phase II, nationwide and non-nationwide, non-CMRS 220 MHz licensees to operate fixed stations without the requirement that such use be on an ancillary basis to land mobile operations.

- We allow licensees using the 220-222 MHz band for geophysical telemetry operations to operate fixed stations on a temporary basis, without the requirement that such use be ancillary to land mobile operations, and on a secondary basis to Phase I and Phase II licensees authorized to operate on 220 MHz channels on a primary basis.

2. Application Procedures

9. We adopt the following procedures and definitions for initial applications, amended applications, applications to modify authorizations, and renewal of authorizations:

- We define initial applications for 220 MHz licenses as applications for the nationwide, EA, and Regional licenses to be assigned in Phase II.

- We adopt the same procedures for amending applications and modifying authorizations for Phase II 220 MHz licenses that are established for other Part 90 Commercial Mobile Radio Services (CMRS).

- We adopt the same procedures for obtaining grants of Special Temporary Authority (STA) for Phase II 220 MHz licenses that are established for other Part 90 CMRS services.

- We adopt for all 220 MHz licensees the renewal standards adopted in the *CMRS Third Report and Order* for Part 90 CMRS services.

E. COMPETITIVE BIDDING RULES

1. Competitive Bidding Design

10. We will award a total of three nationwide, 30 Regional, and 875 EA licenses in the Phase II 220 MHz service. We will use a single simultaneous multiple round auction to award these licenses. Both incumbents and new entrants are eligible to bid for all nationwide, Regional, and EA licenses.

11. The Wireless Telecommunications Bureau will, by Public Notice prior to the auction, announce guidelines for bid increments, *i.e.*, the amount or percentage by which the bid must be raised above the previous round's high bid in order to be accepted as a valid bid in the current bidding round. We will use a simultaneous stopping rule and the Milgrom-Wilson activity rule for this auction. The timing and duration of auction rounds will be determined by the Wireless Telecommunications Bureau and announced by Public Notice or by announcement during the auction. We will use bid withdrawal and default rules for this auction similar to those used in the broadband PCS auctions.

2. Procedural and Payment Rules

12. Applicants will apply for the Phase II 220 MHz auction by filing a short-form application (FCC Form 175), indicating the markets and spectrum blocks for which they seek to apply, and paying an upfront payment. The Wireless Telecommunications Bureau will set the amount of the upfront payment taking into account such factors as the population in each geographic license area and the value of similar spectrum.

13. At the conclusion of the auction, winning bidders must submit their down payments and file their long-form applications (FCC Form 600). The down payments required of all winning bidders will be 20 percent of their winning bids.

3. Regulatory Safeguards

14. The Phase II 220 MHz auction will be subject to regulatory safeguards to prevent applicants from colluding during the auction or obtaining unjust enrichment from subsequent transfers of their licenses.

4. Designated Entities

15. We will not establish an entrepreneurs' block for the 220 MHz band. Instead small businesses will be eligible for bidding credits and an installment payment plan. For purposes of determining small business status, we will attribute the gross revenues of all controlling principals in the small business applicant as well as the gross revenues of affiliates of the applicant. We define two categories of small businesses: (1) a small business is an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years; and (2) a very small business is an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $3 million for the

preceding three years.

16. Very small businesses meeting the not more than $3 million benchmark are eligible for a 25 percent bidding credit on any Phase II 220 MHz license; small businesses meeting the not more than $15 million benchmark are eligible for a ten percent bidding credit on any Phase II 220 MHz license. Licensees who qualify as small businesses or very small businesses in 220 MHz auctions will be eligible to pay their winning bid amount in quarterly installments over the term of the license with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. These licensees may make interest-only payments for the first two years of the license term. We do not adopt reduced upfront payments or reduced down payments for small businesses in the Phase II 220 MHz service.

17. We will adopt unjust enrichment provisions similar to those adopted for narrowband PCS and the 900 MHz SMR service. If a licensee that qualifies for bidding credits and installment payments seeks to assign or transfer control of its license during its term to an entity that does not meet the small business or very small business definition, we will require payment of all or a portion of the bidding credit, remaining principal and any interest accrued through the date of assignment as a condition of the license assignment or transfer.

5. Partitioning and Disaggregation

18. We will permit any holder of a Phase II 220 MHz license to partition portions of its authorization and enter into contracts with eligible parties, allowing such parties to file long-form applications for the usable channels within the partitioned area. We will not at this time authorize spectrum disaggregation for the Phase II 220 MHz service.

F. Use of Spectrum for Particular Services

19. The Commission makes no warranties about the use of this spectrum for particular services. Applicants should be aware that a Commission auction represents an opportunity to become a Commission licensee in this service, subject to certain conditions and regulations. A Commission auction does not constitute an endorsement by the Commission of any particular services, technologies, or products, nor does a Commission license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

III. BACKGROUND

A. The 220-222 MHz Service

20. In 1988, the Commission adopted the *220 MHz Allocation Order*,[7] reallocating the 220-222 MHz band from the Amateur Radio service to private and Federal Government land mobile use. In so doing, we dedicated this spectrum for the development of spectrally-efficient narrowband technology to afford this technology an opportunity to gain acceptance in the

[7] Amendment of Part 2 of the Commission's Rules Regarding the Allocation of the 216-225 MHz Band, Report and Order, GEN Docket No. 87-14, 3 FCC Rcd 5287 (1988) (*220 MHz Allocation Order*); *recon. denied*, Memorandum Opinion and Order, 4 FCC Rcd 6407 (1989), *aff'd*, American Radio Relay League v. FCC, No. 89-1602, 918 F. 2d 978, 1990 WL 191636 (D.C. Cir. 1990).

marketplace. The 220 MHz service was then established in 1991 with the adoption of the *220 MHz Report and Order*.[8] It is regulated under Subpart T of Part 90 of our Rules.[9]

21. In the *220 MHz Report and Order*, the Commission adopted service rules for the assignment of 200 five kilohertz (kHz) channel pairs in the 220-222 MHz band to both Federal Government and private land mobile users. We authorized 60 of the 200 channel pairs for nationwide licensing, with 10 of these designated for assignment to Federal Government entities. The remaining 50 nationwide channel pairs were reserved for non-Government users, with 20 channel pairs designated for ``commercial" use and 30 channel pairs designated for ``non-commercial" use.[10] The 20 commercial channel pairs were divided into four five-channel blocks and the 30 non-commercial channel pairs were divided into two 10-channel and two five-channel blocks. We allocated the remaining 140 channel pairs for non-nationwide use by both Government and non-Government licensees. We also decided that all applications for 220 MHz channels would be granted on a first-come, first-served basis and that mutually exclusive applications would be assigned through random selection procedures.[11]

22. On May 1, 1991, the Commission began accepting applications for nationwide and non-nationwide licenses in the 220-222 MHz band. We received more than 59,000 applications, and on May 24, 1991, the Private Radio Bureau imposed a freeze on the filing of all applications, which included initial and modification applications, for the 220 MHz service.[12] In 1992[13] and

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[8] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Notice of Proposed Rule Making, 4 FCC Rcd 8593 (1989) (*220 MHz Notice*); Report and Order, 6 FCC Rcd 2356 (1991) (*220 MHz Report and Order*); Further Notice of Proposed Rule Making, 7 FCC Rcd 898 (1992) (*220 MHz Further Notice*); *recon. granted in part, denied in part, & rules amended*, Memorandum Opinion and Order, 7 FCC Rcd 4484 (1992) (*220 MHz Memorandum Opinion and Order*); Erratum, DA 92-1177 (released Aug. 28, 1992); Second Erratum, 7 FCC Rcd 6297 (1992); *recon. granted in part, denied in part*, Order, 8 FCC Rcd 4161 (1993) (*220 MHz Second Reconsideration Order*), *recon. pending, appeal dismissed*, Evans v. FCC, Case No. 92-137, (D.C. Cir. Mar. 18, 1994).

[9] Subpart T of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.701-90.757.

[10] At the time of the adoption of the *220 MHz Report and Order*, we used the term ``commercial" to refer to licensees who would operate as carriers under Part 90 of our rules and provide commercial radio services to end users. We used the term ``non-commercial" to refer to licensees who would use spectrum to satisfy their own internal communications requirements. These terms do not correlate directly with the terms Commercial Mobile Radio Service (CMRS) and Private Mobile Radio Service (PMRS), as defined in Section 20.3 of the Commission's Rules, 47 C.F.R. § 20.3.

[11] *220 MHz Report and Order*, 6 FCC Rcd at 2364-65 (paras. 59, 62).

[12] Acceptance of 220-222 MHz Private Land Mobile Applications, Order, 6 FCC Rcd 3333 (1991) (*220 MHz Freeze Order*). The Private Radio Bureau imposed the suspension on licensing processing so that it could complete the disposition of the large number of applications before accepting more applications.

[13] Public Notice, Commission Announces Lottery for Rank Ordering of 220-222 MHz Private Land Mobile ``Local" Channels, 7 FCC Rcd 6378 (1992) (*Public Notice: Non-Nationwide Lottery*).

1993[14] we conducted random selection proceedings to resolve mutually exclusive non-nationwide and nationwide applications, respectively, and issued nearly 3,800 authorizations for non-nationwide stations and four licenses for nationwide, commercial systems. On July 30, 1992, certain aspects of the Commission's procedures for the filing and acceptance of 220 MHz license applications were appealed to the United States Court of Appeals for the District of Columbia.[15] In light of that appeal, the Private Radio Bureau announced that the construction deadline for all non-nationwide 220 MHz stations would be 120 days after the disposition of the *Evans v. FCC* case.[16] Following the settlement of the case in March 1994, the deadline for licensees to construct their systems and place them in operation has been extended on five separate occasions to allow licensees sufficient time to construct their systems.[17] In addition, as a consequence of the freeze, licensees wishing to relocate their authorized facilities through license modifications were unable to do so. Because of the freeze on 220 MHz applications, licensees relied on grants of Special Temporary Authority to modify their authorizations. On January 26, 1996, we adopted the *220 MHz Second Report and Order*.[18] In that proceeding, we re-opened the filing window for non-nationwide 220 MHz licensees who sought to obtain modification of the authorizations to

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[14] Public Notice, Commission Announces Lottery to Select Commercial Nationwide 220-222 MHz Band Private Land Mobile Licensees, DA 93-159 (released Feb. 16, 1993), 58 Fed. Reg. 09174 (Feb. 19, 1993) (*Public Notice: Nationwide Lottery*).

[15] Evans v. FCC, Case No. 92-1317 (D.C. Cir., filed July 30, 1992).

[16] *Public Notice: Non-Nationwide Lottery*, 7 FCC Rcd at 6378.

[17] Specifically, the Bureau extended the construction deadline to December 2, 1994, in an Order released on March 30, 1994. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, 9 FCC Rcd 1739 (1994). On August 19, 1994, the Private Radio Bureau then released a Public Notice extending the construction deadline to April 4, 1995. *See* Public Notice, Private Radio Bureau Extends Time to Construct Non-Nationwide 220 MHz Stations Through April 4, 1995 and Lifts Freeze for Applications to Modify Site Locations, 10 FCC Rcd 744 (1994). In the *CMRS Third Report and Order*, the Commission again identified April 4, 1995, as the construction deadline. *See CMRS Third Report and Order*, 9 FCC Rcd at 8077 (para. 184). On February 17, 1995, the Wireless Telecommunications Bureau released an Order extending the deadline to December 31, 1995. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket 89-552, Order, 10 FCC Rcd 3356 (1995). On December 15, 1995, the Bureau released an Order providing for a further extension of the construction deadline contingent upon the closure of the Commission as a result of any furlough of Federal Government employees. The ensuing 23-day Federal furlough resulted in an extension of the
construction deadline to February 2, 1996, pursuant to a formula established in the Bureau Order. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, DA 95-2490 (released Dec. 15, 1995). Finally, the *220 MHz Second Report and Order* established a March 11, 1996, construction deadline, but licensees seeking modification of their authorization to relocate their base stations were granted until August 15, 1996, to construct their base station and place it in operation or commence service. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, 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, 11 FCC Rcd 3668 at 3674-5 (para. 26, 28) (1996) (*220 MHz Second Report and Order*) *recon. pending*.

[18] *220 MHz Second Report and Order*, 11 FCC Rcd 3668.

relocate their base stations.[19]

B. LEGISLATIVE AND COMMISSION ACTIONS PURSUANT TO BUDGET ACT

23. On August 10, 1993, Congress enacted the Budget Act, in which it, *inter alia*, amended Section 332 of the Communications Act of 1934[20] to replace the existing land mobile radio regulatory scheme with two newly defined categories of mobile services: commercial mobile radio service (CMRS) and private mobile radio service (PMRS). CMRS is defined as ``any mobile service (as defined in section 3 [of the Communications Act]) that is provided for profit and makes interconnected service available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public."[21] PMRS is defined as ``any mobile service (as defined in section 3) that is not a commercial mobile service or the functional equivalent of a commercial mobile service, as specified by regulation by the Commission."[22]

24. The statute directed the Commission to implement these classifications in its regulations and to provide for comparable regulation of substantially similar CMRS services. Accordingly, we initiated our CMRS proceeding in GN Docket No. 93-252 and began the process of implementing the Budget Act in the *CMRS Second Report and Order* released on March 7, 1994.[23] In the *CMRS Second Report and Order*, we determined that our private land mobile service rules with respect to Specialized Mobile Radio (SMR), Business Radio, 220-222 MHz, and private paging allow, but do not require, licensees to offer for-profit, interconnected service to the public, thus meeting the CMRS definition.[24] We found that, to the extent that 220-222 MHz channels are used to offer for-profit and interconnected service, the channels fall within the definition of CMRS. We also adopted a timetable for transition to the new regulatory structure for reclassified CMRS licensees as set forth in the Budget Act. Licensees authorized before enactment of the Act on August 10, 1993, and reclassified as CMRS continued to be regulated as private service providers for a three-year period, until August 10, 1996.[25]

25. In addition, the Budget Act granted the Commission the authority to use competitive

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[19] *Id.*

[20] Communications Act of 1934, 47 U.S.C. §§ 151-614 (Communications Act).

[21] *Id.*, Section 332(d)(1), 47 U.S.C. § 332(d)(1).

[22] *Id.*, Section 332(d)(3), 47 U.S.C. § 332(d)(3). The term ``mobile service," as used in the quoted language in the text, is defined in Section 3(27) of the Communications Act, 47 U.S.C. § 153(27).

[23] 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 (1994) (*CMRS Second Report and Order*); Erratum, 9 FCC Rcd 2156 (1994), *recon. pending*.

[24] *CMRS Second Report and Order*, 9 FCC Rcd at 1450-53 (paras. 88-97).

[25] *Id.* at 1512-14 (paras. 278-84).

bidding to choose among mutually exclusive applications for initial licenses.[26] Under Section 309(j)(2) of the Communications Act, the Commission may use competitive bidding if it finds that the principal use of the spectrum is reasonably likely to involve the offering of service to subscribers in return for compensation for such service. Also, Section 309(j)(2) requires the Commission to find that competitive bidding will promote the objectives described in Section 309(j)(3).

26. On April 20, 1994, we adopted the *CMRS Further Notice*, in which we proposed revisions to our technical, operational, and licensing rules and procedures for reclassified CMRS services.[27] The Budget Act required that we determine if a reclassified private land mobile service is ``substantially similar'' to a common carrier service and, if so, the extent to which it is ``necessary and practical'' to modify our rules to ensure that the two services are subject to ``comparable'' technical requirements.[28]

27. On August 9, 1994, we adopted the *CMRS Third Report and Order*. We noted therein that a substantial majority of commenters addressing the 220 MHz service contended that, for technical reasons, 220 MHz service is not substantially similar to any Part 22 service.[29] We concluded, however, that most commenters had taken a relatively narrow view of the range and scope of CMRS competition, and that, for purposes of determining whether CMRS services are substantially similar, 220 MHz offerings have the potential to compete with other commercial mobile offerings as technology evolves and the offerings begin to gain commercial acceptance.[30]

28. After reviewing the pleadings, we decided to defer consideration of a new licensing plan for the 220 MHz service based on different-sized channel blocks or service areas to a separate proceeding, where a more comprehensive record could be developed.[31] While adopting the use of competitive bidding procedures to resolve competing CMRS applications, we specifically deferred the adoption of new application filing and selection procedures for the 220 MHz service to the instant proceeding.[32] We also deferred any decision regarding the definition of initial applications, amendments to applications, and license modifications for the service to this

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[26] Communications Act, § 309(j), 47 U.S.C. § 309(j).

[27] Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Further Notice of Proposed Rule Making, 9 FCC Rcd 2863 (1994) (*CMRS Further Notice*).

[28] Budget Act, § 6002(d)(3).

[29] *CMRS Third Report and Order*, 9 FCC Rcd at 8006-07 (para. 34).

[30] *Id*. at 8026 (para. 67).

[31] *Id*. at 8055 (paras. 126-127).

[32] *Id*. at 8141 (para. 345).

proceeding.[33]

[33] Because of the freeze on 220 MHz applications, licensees relied on grants of Special Temporary Authority (STAs) to modify their authorizations, and many of the commenters requested special provisions to enable them to file modification applications before any new application procedures were put in place. *See CMRS Third Report and Order*, 9 FCC Rcd at 8147-48 (paras. 359-62). These concerns were addressed in the *220 MHz Second Report and Order*. *See 220 MHz Second Report and Order*, 11 FCC Rcd 3668.

C. 220 MHz Third Notice

29. On July 28, 1995, the Commission adopted the *220 MHz Third Notice*, which proposed a new framework for the operation and licensing of the 220-222 MHz band. In that proceeding, we proposed that: (1) Phase II 220 MHz spectrum be authorized through a combination of nationwide and regional licensing; (2) 220 MHz licensees be permitted to offer certain, currently unauthorized communications services on a primary basis, (*e.g.*, paging, and fixed operations); (3) we would preserve allocations of 220 MHz spectrum for eligibles in the Public Safety Radio Services and the Emergency Medical Radio Service (EMRS); and (4) mutually exclusive applications for all Phase II channels, with the exception of the channels allocated for public safety and EMRS entities, would be assigned through competitive bidding.

IV. DISCUSSION

A. Overview

30. Based on our review of the comments in the *CMRS Further Notice*, the *CMRS Third Report and Order*, and related CMRS decisions, and the status of the 220 MHz service under the current regulations, we decided, in the *220 MHz Third Notice*, to propose a revised regulatory scheme for the 220 MHz service. The proposed rules would govern all Phase II applicants and licensees in the 220 MHz service, as well as certain existing Phase I licensees. Our plan was to retain the basic framework of the technical and operational rules consistent with the original service goals, but to revise them to permit more flexible operations consistent with the goals of the Budget Act for reclassified CMRS licensees. We received 33 comments and 15 reply comments, from a broad segment of interested parties, in response to the various proposals we made in the *Third Notice*. A list of commenters is found in Appendix C.

B. Channel Assignment and Service Area Rules

31. In the *Third Notice*, we indicated that by providing both nationwide and non-nationwide 220 MHz channels, we would enable a variety of services to be made available to the public. We therefore proposed that both nationwide and non-nationwide assignments continue to be made available in Phase II in the 220 MHz service. We now conclude that in Phase II licensing of the 220 MHz band, we should provide for both nationwide and non-nationwide channels. The channel assignment and service rules that we are adopting for nationwide and non-nationwide licensing of the 220 MHz band are discussed in the following sections.

1. Nationwide Licensing

a. *Background*

32. We decided, in our 220 MHz Report and Order, to authorize 60 of the 200 channel pairs in the 220-222 MHz band for nationwide licensing. Ten of these channel pairs were for assignment to Federal Government entities and of the remaining 50 channel pairs reserved for non-Government users, 20 were designated for ``commercial'' use and 30 were designated for ``non-commercial'' use.[34] The 20 commercial channel pairs were divided into four five-channel

[34] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (paras. 34-36).

blocks (Channels 21-25, 26-30, 151-155, and 156-160). The 30 non-commercial channel pairs were divided into two 10-channel blocks (Channels 51-60 and 141-150), and two five-channel blocks (Channels 81-85 and 86-90). On May 1, 1991, we received 140 applications for the four commercial licenses. We also received 14 applications for the two 10-channel non-commercial licenses and 20 applications for the two five-channel non-commercial licenses.[35]

33. The rules adopted in the *220 MHz Report and Order* provided that applicants for nationwide authorizations would have to submit additional information to satisfy specified entry criteria and financial requirements.[36] Applicants were not required to file this information at the time they filed their applications, but rather were to be notified in a public notice when this information should be submitted.[37] In our *220 MHz Memorandum Opinion and Order*, released July 16, 1992, we modified the entry criteria and financial requirements for nationwide authorizations.[38] Subsequently, a petition was filed seeking reconsideration of certain of these modifications relating to the licensing of nationwide, *non-commercial* systems. Consequently, the Private Radio Bureau announced, in a September 29, 1992, Public Notice,[39] that it would require the amending application information from nationwide commercial applicants by November 19, 1992, but that it would not accept filings from non-commercial applicants until the adoption of an order addressing the petition for reconsideration of the *220 MHz Memorandum Opinion and Order*. Following the receipt of the filings from the commercial applicants, the Bureau conducted a lottery on March 31, 1993,[40] that led to the assignment of the four nationwide commercial licenses.[41] In the *220 MHz Second Reconsideration Order*, released June 21, 1993, we addressed the matters relating to non-commercial nationwide licensing raised on reconsideration.[42] However, following the adoption of the *220 MHz Second Reconsideration Order*, we received three additional petitions seeking reconsideration of certain decisions in that Order. With this proceeding not yet terminated, we have not solicited the amending application information from the applicants for non-commercial

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[35] Subsequently, one of the 34 applicants withdrew its application pursuant to the rule changes we adopted in the *220 MHz Memorandum Opinion and Order* that we found significantly altered the construction and operational requirements for the nationwide, non-commercial channels. We permitted nationwide, non-commercial applicants to withdraw their applications and provided for the refund of their filing fees. *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4489 n. 66 (para. 23).

[36] *220 MHz Report and Order*, 6 FCC Rcd at 2363-64 (paras. 50-55); Section 90.713 of the Commission's Rules, 47 C.F.R. § 90.713.

[37] *220 MHz Report and Order*, 6 FCC Rcd at 2364 n.118 (para. 55).

[38] *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4493 (para. 41).

[39] Public Notice, November 19, 1992 Date Established for Commercial Nationwide 220-222 MHz Band Applicants To File Application Amendments To Satisfy Entry Criteria, DA 92-1321 (released Sept. 29, 1992), 57 Fed. Reg. 49475 (Oct. 1, 1992).

[40] *Public Notice: Nationwide Lottery*, 58 Fed. Reg. 09174.

[41] Public Notice, Commission Announces Tentative Selectees for 220-222 MHz Nationwide Commercial Private Land Mobile Channels, DA 93-376 (released April 1, 1993), 58 Fed. Reg. 26322 (May 3, 1993).

[42] *220 MHz Second Reconsideration Order*, 8 FCC Rcd at 4164 (para. 11).

licenses.

b. *In General*

(1) Proposal

34. In the *Third Notice* we found, citing the experience in the nationwide narrowband PCS auction, that there was an apparent demand in the mobile communications marketplace for nationwide licenses. We also found nationwide licenses would increase competition among nationwide wireless communications providers and would help meet future customer demand for nationwide service. We tentatively concluded that the 30 channels originally designated for nationwide, non-commercial use should continue to be designated for nationwide operations. We sought comment on whether these channels should be so designated or whether they should be made available for some form of non-nationwide operations.[43]

(2) Comments

35. No commenters argue against a designation for nationwide channels. Metricom, in supporting a nationwide channel designation, argues that, without a nationwide designation, carriers seeking to offer nationwide services would be forced to acquire five regional licenses or more than 150 EA licenses.[44] Pagenet favors nationwide licensing because, in its view, there clearly is consumer demand for nationwide services.[45]

(3) Decision

36. We conclude that, recognizing the consumer demand for nationwide services, the 30 channels originally designated for nationwide use should continue to be allotted for nationwide operations. Nationwide licenses will alleviate the problem of licensees having to aggregate smaller licensed service areas in order to provide their customers with nationwide service. Also, since potential competitive services have designations for nationwide service, a nationwide designation in this service will lead to increased competition among those services. Licensees authorized on these channels will be permitted to construct stations and place them in operation anywhere in the Nation so long as licensees ensure that: (1) they operate their stations in accordance with the provisions of Sections 1.1301 through 1.1319 of our Rules (Procedures Implementing the National Environmental Policy Act of 1969); (2) they operate their stations in compliance with their air safety responsibilities, as outlined in Part 17.6 of our Rules; and (3) they are in compliance with all applicable international agreements (*e.g.*, Section 90.715 relating to operation in U.S./Mexican border areas).

c. *Non-Commercial Channel Set-Aside*

(1) Proposal

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[43] *Third Notice*, 11 FCC Rcd at 207 (para. 33).

[44] Metricom Comments at 9.

[45] Pagenet Comments at 4.

37. In the *Third Notice*, we noted that we previously did not decide to set aside spectrum for nationwide, non-commercial operations to satisfy some perceived demand on the part of the public for the use of such spectrum. Rather, we were concerned with implementing rules that would encourage the development of 5 kHz technology, and thus concluded that a combination of commercial and non-commercial nationwide channels would ``promote the widest variety of advanced narrowband development."[46] With our Phase I authorization of 3,800 non-nationwide licenses, which will be used for both commercial and non-commercial purposes, we believed that we had taken steps to promote the development of narrowband technology, as envisioned in the *220 MHz Report and Order*. We tentatively concluded, therefore, that there should be no set-aside for non-commercial channels in Phase II licensing, and that nationwide channels should be made available equally to all applicants. We sought comment on this tentative conclusion.[47]

(2) Comments

38. Several commenters urge the Commission to maintain a non-commercial set-aside for the 220 MHz service.[48] Global, 360, and Airborne argue that the Commission originally designated a non-commercial set-aside based on perceived demand on the part of large companies to meet their internal communication needs.[49] Several commenters argue that there is a continuing demand for a non-commercial set-aside in this service.[50] Some commenters contend that the fact that there are 33 applications for the nationwide, non-commercial licenses proves this demand still exists.[51] Several commenters reason that these companies would not have spent their time and funds applying for these licenses if they had no need for them.[52] AMTA states that companies still need these non-commercial licenses to meet their critical internal communication needs.[53] Airborne, Fleet, UTC, and Columbia state in their comments that, if they are awarded one of these licenses, they will use the license to meet internal communication needs.[54]

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[46] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (para. 36).

[47] *Third Notice*, 11 FCC Rcd at 208 (para. 34).

[48] Airborne Comments at 2; Comtech Comments at 2-4; Comtech Reply at 3; Global Comments at 2-3; 360 Comments at 2; ITA Comments at 3-6; Columbia Reply at 7; AMTA Comments at 10; AMTA Reply at 7.

[49] Global Comments at 2-3; 360 Comments at 2; Airborne Comments at 2.

[50] Airborne Comments at 2; AMTA Comments at 10; AMTA Reply at 7; Columbia Reply at 7; Comtech Reply at 3; Global Comments at 2-3; ITA Comments at 3-6; 360 Comments at 2.

[51] AMTA Comments at 10; AMTA Reply at 7; Global Comments at 2; 360 Comments at 2; Columbia Reply at 5.

[52] Global Comments at 3; 360 Comments at 2.

[53] AMTA Reply at 7.

[54] Airborne Comments at 2; Fleet Comments at 2; UTC Comments at 2-3; Columbia Reply at 7.

39. Several commenters argue that, for reasons such as cost,[55] high demand for commercial services,[56] and inability to meet companies' technical requirements,[57] commercial services are not able adequately to fulfill their internal communications needs.[58] Ericsson contends that the pending applications illustrate that the primary use of these 220 MHz spectrum licenses will not be commercial.[59] ITA argues that the Commission has the authority to require additional information from the applicants to ensure that potential licensees will use the spectrum internally.[60] Furthermore, Comtech also argues that narrowband technology still needs to be promoted and that a non-commercial set aside will spur growth in this area.[61]

40. Other commenters argue that there should not be a set-aside for non-commercial nationwide use in the 220 MHz service.[62] Pagenet contends that, with the advances that have been made in efficient use of the spectrum, it is hard to envision any business with internal communication needs which will require the total spectrum allotted for each 220 MHz authorization.[63] U.S. Mobilcomm contends that, since the Commission's rules allow for the leasing of excess capacity, there is already a *de facto* commercial allotment of this spectrum.[64] Pagenet alleges that a non-commercial set-aside will do nothing to encourage the development and efficient use of the 220 MHz band.[65] U.S. Mobilcomm and Pagenet argue that, if the spectrum is redesignated, marketplace economics will ensure that licensees will use the spectrum to the fullest possible extent.[66] Metricom contends that redesignating this spectrum for commercial use will open the nationwide spectrum to a myriad of uses that would provide a variety of services to consumers.[67] Pagenet points out that wide-area or nationwide service needs

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[55] Airborne Comments at 2; ITA Comments at 6.

[56] Airborne Comments at 2.

[57] Airborne Comments at 2; ITA Comments at 6-8.

[58] Airborne Comments at 2; ITA Comments at 6-8.

[59] Ericsson Comments at 2.

[60] ITA Comments at 8.

[61] Comtech Comments at 3-4.

[62] Metricom Comments at 8-9; Pagenet Comments at 8-9; Pagenet Reply at 16-17; SMR Comments at 7-9; SMR Reply at 5-6; U.S. Mobilcomm Comments at 4.

[63] Pagenet Comments at 8.

[64] U.S. Mobilcomm Comments at 4. *See also* Pagenet Reply at 16.

[65] Pagenet Comments at 8.

[66] U.S. Mobilcomm Comments at 4; Pagenet Comments at 8-9.

[67] Metricom Comments at 9.

of individual companies can be met by commercial operators.[68]

41. Several commenters point out that the original reason for the non-commercial set-aside was to encourage development of 5 kHz technology, and not to satisfy perceived demand for non-commercial use.[69] Metricom argues that this goal has been achieved through the authorization of 3,800 licenses for 220 MHz services.[70] SMR and U.S. Mobilcomm state that narrowband technology has been widely developed and employed.[71]

(3) Decision

42. We find that it would be in the public interest to also allow commercial operations on the channels formerly designated solely for non-commercial operations. Our decision is based in part upon our conclusion that making the spectrum available for both commercial and non-commercial use is an effective means of promoting efficient use of the spectrum. First, the parties in this proceeding demonstrate apparent demand for nationwide spectrum for the provision of commercial services to the public.[72] Second, we think that allowing Phase II 220 MHz nationwide licensees to partition their licenses[73] and, in addition, proposing to permit them to disaggregate their spectrum[74] should also help to meet the needs of non-commercial users. Third, we believe that companies may be able to meet some of their internal communications needs through the purchase of service from a commercial provider.[75] Fourth, we are not precluding a nationwide licensee from using some or all of its spectrum for internal communications. Thus, an applicant that is committed to the use of spectrum for non-commercial purposes will have the opportunity to acquire a license for the spectrum at auction, just as they might purchase a license from an existing licensee in the secondary market. Also, if the highest value for this spectrum (as determined by the marketplace) is internal communications, then the auction winner will use the spectrum for that use.

d. ***Assignment of Nationwide Channels***

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[68] Pagenet Comments at 8.

[69] Metricom Comments at 8; SMR Comments at 8 n.7; SMR Reply at 5 n.12; U.S. Mobilcomm Comments at 4 n.4.

[70] Metricom Comments at 8.

[71] SMR Comments at 8 n.7; SMR Reply at 5-6; U.S. Mobilcomm Comments at 4 n.4.

[72] *See, e.g.,* Pagenet Reply at 16; SMR Reply Comments at 7; U.S. MobilComm Comments at 4.

[73] See para. 308, *infra*.

[74] See para. 321, *infra*.

[75] United Parcel Service, for example, is meeting its needs for a nationwide data network by obtaining cellular services from an alliance consisting of McCaw, GTE Mobile Communications, PacTel Cellular, and Southwestern Bell Mobile Systems. *Special Mobile Phone News Subscriber Supplement Mobile Data: Lead, Follow or Get Out of the Way,* Mobile Phone News, Oct. 8, 1992.

(1) Channel Assignment Method

(a) *Proposal*

43. In deciding the assignment methodology for resolving mutually exclusive applications for the Phase II nationwide channels, we are instructed by Section 309(j) of the Communications Act and the *Competitive Bidding Second Report and Order* to determine the principal use of the spectrum. In proposing to make the 30 Phase II nationwide licenses available for both commercial and non-commercial use, we indicated in the *Third Notice* that we could not determine with absolute certainty, in advance of authorization, whether the primary use of this spectrum would be for licensees' internal use or for the provision of for-profit, subscriber-based services. Based on a review of our records, we tentatively concluded that the vast majority of the 59,000 applicants for 220 MHz non-nationwide stations intended to use their authorized spectrum to provide services to subscribers on a for-profit basis.[76]

44. Although we recognized that the projected use of 220 MHz channels for non-nationwide operations may not necessarily parallel the planned use of the channels by nationwide licensees, we believed that the fact that most non-nationwide applicants apparently intended to use the channels for commercial use was a strong indication that this will also likely be the principal use of the spectrum by prospective nationwide licensees. We thus tentatively concluded that the principal use of the 30 channels allocated for nationwide use is most likely to be for the transmission or reception of communications signals to subscribers for compensation and, therefore, in accordance with Section 309(j)(2)(A) of the Communications Act, mutually exclusive applications for initial licensing of these channels should be assigned by competitive bidding.[77]

(b) *Comments*

45. Pagenet notes that there is no doubt that once this spectrum is awarded licensees in fact will use the spectrum for commercial, for-profit activities.[78] ITA, UTC, and Ericsson argue, however, that there is no evidence to indicate that the current applicants for these channels would offer commercial services.[79] UTC also notes that even if the Commission concludes that the current applicants would be likely to offer subscriber-based service, the auction statute does not compel the Commission to use competitive bidding.[80]

(c) *Decision*

46. Based on our analysis in the *Third Notice*, we adopt our proposal to assign mutually

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[76] *Third Notice*, 11 FCC Rcd at 209 (para. 36).

[77] *Id*.

[78] Pagenet Comments at 7; Pagenet Reply at 5.

[79] UTC Comments at 6; ITA Comments at 8; Ericsson Comments at 2.

[80] UTC Comments at 7.

exclusive applications for nationwide licenses through competitive bidding. In the *Competitive Bidding Second Report and Order*, we found that the Commission must look to the service rather than the individual licenses to determine whether the principal use of the spectrum is reasonably likely to meet the criteria set forth in Section 309(j).[81] The three commenters who maintain that the use of this spectrum will be for non-commercial purposes do so on the basis of the most likely principal use by *current* 220 MHz applicants. Even if we were to agree *arguendo* with the claims made by these commenters, we do not believe it would be reasonable or prudent to base our analysis concerning the principal use of this spectrum solely on the likely principal use by current applicants. These applicants applied for non-commercial licenses; potential licensees who want to use this spectrum for commercial purposes would not have applied for these licenses during the original filing period because the licenses were designated for non-commercial use.

47. There is no evidence in the record which contradicts our tentative conclusion in the *Third Notice* that, if the 30 Phase II nationwide channels are available to all prospective applicants, then the principal use of the spectrum is most likely to be for the transmission or reception of communications signals to subscribers for compensation. In reaching the decision that this spectrum should be auctioned, we find that assigning this spectrum through competitive bidding will promote achievement of our legislative mandate to ensure an ``efficient . . . Nation-wide . . . radio communication service with adequate facilities at reasonable charges . . . ."[82] We also conclude that use of competitive bidding to assign this spectrum contributes to our statutory obligation to seek to promote the development of new technologies and service to benefit the public,[83] and to seek to promote efficient and intensive use of the spectrum.[84]

(2) Channel Block Sizes

(a) *Proposal*

48. In the *220 MHz Report and Order*, we assigned the 30 nationwide, non-commercial channels in two five-channel and two 10-channel blocks.[85] In the *Third Notice* we proposed to allow future 220 MHz licensees to offer a wider variety of communications services than are currently permitted in the 220 MHz service. We noted that, in order to provide these services, nationwide licensees may require more spectrum than would be available in an authorization consisting of only five 5 kHz channels. We therefore proposed to assign the 30 nationwide channels in Phase II in three 10-channel blocks (Channels 51-60, 81-90, and 141-150) of 5 kHz channels. We sought comment on this proposed channel assignment plan, as well as any

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[81] Implementation of Section 309(j) of the Communications Act--Competitive Bidding, PP Docket No. 93-253, Second Report and Order, 9 FCC Rcd 2348, 2354 (para. 34) (1994) (*Competitive Bidding Second Report and Order*).

[82] Section 1 of the Communications Act, 47 U.S.C. § 151.

[83] Section 309(j)(3)(A) of the Communications Act, 47 U.S.C. § 309(j)(3)(A).

[84] Section 309(j)(3)(D) of the Communications Act, 47 U.S.C. § 3039(j)(3)(D).

[85] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (paras. 35-36).

alternative channel assignment proposals.[86]

(b) *Comments*

49. The only parties addressing this issue, Metricom and Pagenet, support the proposed channel assignment plan.[87] Metricom notes that many of the new services being proposed will require far greater bandwidth than a five-channel block.[88] Pagenet believes that the assignment of 10-channel blocks will allow licensees to compete in the CMRS marketplace by offering a variety of PCS type, one-way, two-way, data, and other services.[89]

(c) *Decision*

50. We agree with the commenters that the Commission's proposal to expand the permitted uses in the 220 MHz band requires that we reexamine our original channel block sizes. In order to accommodate these new services, many of which will require more spectrum than would be available in a five-channel block, we will adopt our proposal to assign the 30 nationwide channels in Phase II in three 10-channel blocks (Channels 51-60, 81-90, and 141-150). We believe that this plan will increase the economic viability of the 220 MHz systems, thus allowing the licensees to more fully serve the needs of the public. We also conclude that our decision to license 220 MHz nationwide licenses in 10-channel blocks, along with our other decisions in this Order, will promote the purposes specified in Section 1 and Section 309(j)(3) of the Communications Act. For example, granting licensees the flexibility associated with larger spectrum blocks should help to promote technical innovation by providing licensees with additional flexibility to take advantage of new technology. At the same time, we believe that these 10-channel licenses will be small enough to provide an opportunity for small businesses. As stated above, we believe this plan will increase the economic viability of 220 MHz licenses, and thus promote competition in the CMRS marketplace.

(3) Limit on Nationwide Authorizations

(a) *Proposal*

51. In the *Third Notice* we noted that restricting the number of nationwide authorizations any single 220 MHz licensee may acquire may lead to greater competition among Phase II licensees. If, however, such licensees are in competition with other CMRS providers, we tentatively concluded that a restriction on the number of authorizations a single 220 MHz licensee may hold may not be necessary or appropriate. We therefore asked for comment on whether a limit should be placed on the number of Phase II nationwide authorizations that may be obtained

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[86] *Third Notice*, 11 FCC Rcd at 209-10 (para. 37).

[87] Metricom Comments at 10; Pagenet Comments at 9-10.

[88] Metricom Comments at 10.

[89] Pagenet Comments at 9-10.

by a single licensee.[90]

(b) *Comments*

52. Metricom states that 220 MHz licensees will face substantial competition from other services and therefore favors allowing one licensee to acquire multiple nationwide licenses.[91] Pagenet argues that limiting the number of licenses that can be held by any 220 MHz licensee will also limit a licensee's ability to offer unique services, therefore, the Commission would be manipulating the future CMRS marketplace without knowing the types of services that would ultimately be provided on the 220 MHz spectrum.[92]

(c) *Decision*

53. We agree with the commenters that 220 MHz licensees will not simply be in competition with other 220 MHz licensees but will also face competition from other services such as, cellular, PCS, and SMR. Since the 220 MHz licensees will be in competition with other CMRS providers, we conclude that there is no reasonable basis to fear that any threat to competition will arise as a result of allowing one 220 MHz service licensee to acquire multiple nationwide channel blocks.

(4) License Terms

54. We proposed in the *Third Notice* to establish a 10-year license term for nationwide 220 MHz licenses.[93] We received no comments on this proposal. We have previously adopted a uniform 10-year licensing term for all CMRS licenses, including narrowband and broadband PCS services and the 900 MHz SMR service. By adopting our proposal for a 10-year license term for nationwide 220 MHz authorizations, all of these services will have 10-year license terms. In addition, we believe that a 10-year license term will provide sufficient time for 220 MHz nationwide licensees to complete construction of their systems. We therefore adopt a 10-year license term for nationwide 220 MHz licensees.

(5) Aggregation

(a) *Proposal*

55. In the *Third Notice* we proposed that both Phase I and Phase II licensees be permitted to aggregate their contiguous channels to create wider bandwidth channels. We expressed the belief that our existing 5 kHz-wide channels unnecessarily restrict the types of services that can be provided in the 220 MHz band and prevent other, perhaps equally spectrally efficient, technologies from being employed in the band. In drawing our tentative conclusion, we

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[90] *Third Notice*, 11 FCC Rcd at 210 (para. 38).

[91] Metricom Comments at 10.

[92] Pagenet Comments at 10.

[93] *Third Notice*, 11 FCC Rcd at 210 (para. 39).

acknowledged that allowing 220 MHz licensees to aggregate their channels is a significant departure from our initial decision not to allow 220 MHz licensees to group narrowband channels.[94]

(b) *Comments*

56. Several commenters, primarily manufacturers of 5 kHz equipment, assert that there are many other spectrum bands, where digital and other technologies are being used but that only in the 220 MHz band is 5 kHz, narrowband technology employed and, therefore, they disagree with our proposal to allow 220 MHz to aggregate contiguous channels.[95] These commenters, believe that, if we adopt this proposal, we would be abandoning our commitment to the implementation of narrowband technologies and would severely jeopardize their ability to continue to develop and market that technology.[96] Other commenters, however, support the proposal to allow the aggregation of channels, arguing that this type of flexibility will allow 220 MHz licensees to offer a wider variety of communications services and more effectively compete in the wireless marketplace.[97]

(c) *Decision*

57. For the reasons set forth in Section IV.B.2.c(4)(b)(iv), *infra*, with regard to the licensing of non-nationwide 220 MHz spectrum, we conclude that Phase I and Phase II nationwide licensees should be permitted to aggregate their contiguous 5 kHz channels and operate on channels wider than 5 kHz. In doing so, however, licensees will be required to comply with the spectrum efficiency standard set forth in Section IV.B.2.c(5), *infra*.

2. Non-Nationwide Licensing

a. *Background*

58. In the *220 MHz Report and Order*, we allocated 140 of the 200 channel pairs in the 220 MHz service for non-nationwide use by both Government and non-Government licensees. The non-Government users eligible for authorization on these channels are those entities eligible for assignment under Subparts B, C, D, and E of Part 90 of our rules[98] as well as those entities

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[94] *Third Notice*, 11 FCC Rcd at 229 (para. 82). *See 220 MHz Notice*, 4 FCC Rcd at 8597 n.49 (para. 27).

[95] *See* SEA Comments at 9, 13; Securicor Reply at 3; E.F. Johnson Comments at 6; PCIA Comments at 8.

[96] *See* SEA Comments at 9-10; SEA Reply at 5; E.F. Johnson Comments at 6; PCIA Comments at 8.

[97] AMTA Comments at 18; Metricom Comments at 4; Pagenet Comments at 11-12; Global Reply Comments at 3 (supporting channel aggregation only for nationwide licensees). *See also* Comtech Comments at 6.

[98] These are entities eligible in the Public Safety Radio Services (Subpart B), the Special Emergency Radio Services (Subpart C), the Industrial Radio Services (Subpart D), and the Land Transportation Radio Service (Subpart E). *See* Section 90.703(a) of the Commission's Rules, 47 C.F.R. § 90.703(a). The licensees eligible in these services would use 220 MHz spectrum to meet their internal communications needs.

who intend to use the spectrum to provide commercial services.[99] Forty of the 140 non-nationwide channels (Channels 161-200) were assigned for ``individual, non-trunked local use,"[100] with the remaining 100 channels assigned in the form of 20 five-channel blocks designated for trunked operation.[101] Ten of the 40 individual, non-trunked channels (Channels 161-170) were reserved exclusively for applicants eligible in the Public Safety Radio Services, five channels (Channels 181-185) were to be used exclusively by applicants eligible in the Emergency Medical Radio Service (EMRS),[102] and 15 channels (Channels 186-200) were designated for ``data-only" use.[103] The only restrictions on the remaining channels (Channels 171-180) are that they be licensed individually and that they be used for non-trunked operation. The current allocation of non-nationwide channels is described in the following Table:

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[99] Section 90.703(c) of the Commission's Rules, 47 C.F.R. § 90.703(c).

[100] 220 MHz Report and Order, 6 FCC Rcd at 2362 (paras. 40-44); Section 90.719 of the Commission's Rules, 47 C.F.R. § 90.719.

[101] *220 MHz Report and Order* at 2358 (para. 16); Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721. In the non-trunked, or ``conventional" mode of operation, end users on a land mobile system must manually search for an unused channel. Trunking is a computerized technology that automatically selects an unused channel on the system and assigns it to the end user.

[102] Amendment of Part 90 of the Commission's Rules To Create the Emergency Medical Radio Service, PR Docket No. 91-72, Report and Order, 8 FCC Rcd 1454 (1993) (*EMRS Report and Order).*

[103] *220 MHz Report and Order*, 6 FCC Rcd at 2362 (para. 44) (allocating Channels 181-200 for ``data-only" use). We subsequently reallocated five of these channels for the exclusive use of licensees in the Emergency Medical Radio Service in the *EMRS Report and Order*, thus leaving Channels 186-200 as the current ``data-only" channels. *See EMRS Report and Order*, 8 FCC Rcd at 1459 (para. 28).

The Existing (Phase I) Band Plan

EXISTING 220-222 MHz CHANNEL ALLOCATION PLAN	
NON-NATIONWIDE	**CHANNELS**
Twenty 5-Channel Trunked Groups	Group No. 1: Channels 1, 31, 61, 91 and 121 Group No. 2: Channels 2, 32, 62, 92, and 122 . . . Group No. 20: Channels 20, 50, 80, 110 and 140
Ten Public Safety Channels	Channels 161-170
Ten Non-Trunked Channels	Channels 171-180
Five EMRS Channels	Channels 181-185
Fifteen Data-Only Channels	Channels 186-200
TOTAL	**140 CHANNELS**

b. *Assignment and Permissible Uses of Channels 161-200*

(1) Assignment of Public Safety Service Channels (Channels 161-170)

(a) *Proposal*

59. In the *Third Notice*, we proposed to continue to set aside Channels 161-170 for Public Safety Radio Service entities. We indicated that we should continue this allocation because it would provide public safety eligibles with needed spectrum to coordinate their responses to various types of emergencies. We also sought comment as to whether use of five of the ten Public Safety Channels (Channels 161-165) for base station operations should be shared among all Public Safety eligibles. We indicated that under such an assignment scheme, all Public Safety eligibles in a given area would be able to construct base stations operating on these channels to better maximize interoperability among licensees. We noted that our current licensing scheme does not provide for such interoperability because an individual Public Safety licensee could obtain base station authorization for the exclusive use of all of the 10 available channels in a particular area.[104]

[104] *See Third Notice*, 11 FCC Rcd at 213 (para. 45).

(b) *Comments*

60. Several commenters favor the continued allocation of spectrum for pubic safety eligibles. For example, APCO ``strongly supports the Commission's proposal to retain the current 10-channel allocation for the Public Safety Radio Services and the 5-channel allocation for the EMRS in the 220-222 MHz band."[105] AMTA, while endorsing the proposal, suggests that ``[s]hould it be determined at some future date that these channels are not useful for [Public Safety and EMRS purposes, it] assumes the FCC will revisit that allocation."[106] Comtech[107] and Johnson also favor the proposal, but Comtech believes that public safety licensees should be prohibited from reselling excess capacity on their systems.[108] In support of its position, Comtech states that, ``[t]o the extent that remaining 220 MHz spectrum will be subject to auction, public safety licensees should not be permitted to offer services on spectrum that they obtain for free in competition with entities that are required to pay for spectrum."[109]

(c) *Decision*

61. We believe that it is in the public interest to continue to allocate ten 220 MHz non-nationwide channel pairs for the exclusive use of Public Safety eligibles. No commenters oppose this decision. Although Public Safety eligibles may obtain a license on any of the 220 MHz non-nationwide channels, we believe that it is reasonable at this time to dedicate 10 channels exclusively to Public Safety eligibles.[110] This decision is not intended to prejudice the comprehensive examination of the spectrum needs of Public Safety eligibles that we have recently undertaken.[111] Our current decision maintains the status quo with respect to the number of channels available exclusively for public safety. In addition, our decision implements one of the Commission's statutory mandates under the Communications Act of ``promoting safety of life and

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[105] APCO Comments at 2.

[106] AMTA Comments at 11-12.

[107] Comtech is a nationwide, commercial 220 MHz licensee, a holder of several non-nationwide authorizations, and a manager of the facilities of other non-nationwide 220 MHz licensees.

[108] Johnson Comments at 4; *cf.* Comtech Comments at 4.

[109] Comtech Comments at 4-5.

[110] We note that pursuant to the *Report and Order* in PR Docket No. 92-235, we are considering the realignment of the radio services encompassed by Subparts B and C of Part 90 of our Rules. If such a realignment is adopted, modifications may be made to the rules adopted herein with regard to the licensing of these channels. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, Report and Order and Further Notice of Proposed Rulemaking, 10 FCC Rcd 10076 (1995) (*Refarming Report and Order*).

[111] The Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket No. 96-86, Notice of Proposed Rulemaking, 11 FCC Rcd 12460 (1996) (*Public Safety NPRM*).

property through use of wire and radio communication."[112] Because we are designating these 10 channels for use by Public Safety eligibles only, these channels will not be subject to competitive bidding. The Commission's authority to use competitive bidding to select among mutually exclusive applications does not extend to these public safety channels because the principal use of the spectrum will not be for the provision of services to subscribers in exchange for a fee.[113]

62. In the *220 MHz Report and Order* we indicated that, after five years, we would ``assess public safety use of this limited set-aside with a view to reassigning this spectrum if it is underutilized."[114] Due to the freeze on the acceptance of initial 220 MHz applications, in effect since May 24, 1991, it has not been possible to accurately evaluate use of these channels by the public safety community. We shall therefore conduct the assessment of the use of these channels at the end of the three-year period following the effective date of the rules adopted in this proceeding, and if we determine that these channels are underutilized, then we will initiate a proceeding to address designation of the channels for other uses. With regard to Comtech's recommendation that public safety licensees be prohibited from reselling excess capacity on their systems, we conclude that it would be best, at this time, to defer this issue to our upcoming proceeding that will deal broadly with matters relating to Public Safety.[115]

63. Under the rules adopted in the *220 MHz Report and Order*, all 10 of the public safety mobile frequency channels may be used by public safety eligibles for mobile or portable use on a shared basis.[116] Authorizations for base/mobile and base/portable operations on the public safety channel pairs, however, are assigned on an exclusive basis. We believe that the possibility of allowing a single licensee within a particular geographic area to exercise exclusive control over all of the available channels in that area would defeat the purpose of our allocation of these channels for mutual aid use. We therefore will assign five of the 10 channel pairs, Channels 161-165, on a non-exclusive, *i.e.*, shared basis, to all public safety eligibles. Licensees operating on these channels in a given geographic area will coordinate amongst themselves to locate base stations to maximize interoperability. Under this allocation scheme, the public safety licensees within a particular geographic area will be able to share Channels 161-165 and coordinate the location and operation of base stations on these channels, which will enable them to communicate more effectively with each other during emergencies. We will assign the remaining base station five-channel pairs -- Channels 166-170 -- to individual licensees on an exclusive basis, with licensees on such frequencies authorized to construct a base station for base/mobile and base/portable

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[112] Section 1 of the Communications Act, 47 U.S.C. § 151.

[113] Communications Act, § 309(j), 47 U.S.C. § 309(j).

[114] *220 MHz Report and Order*, 6 FCC Rcd at 2360 (para. 27).

[115] In the Public Safety Notice of Proposed Rulemaking, we sought comment on whether exclusivity or leasing of excess public safety spectrum capacity would be a feasible means of increasing efficiency of spectrum use. *See Public Safety NPRM*, 11 FCC Rcd at 12489 (para. 81). We want to fully examine and analyze the comments in that proceeding before addressing the issue of whether public safety entities should or should not be permitted to lease excess capacity.

[116] Section 90.720 of our Rules permits Public Safety entities to operate mobile and portable stations -- under certain conditions, as specified in Section 90.720(a) -- on any of the Public Safety channels, without separate authorization. 47 C.F.R. § 90.720.

operations.[117] Procedures for the assignment of these channels are contained in Section IV.B.2.d(2), *infra*. In addition, the existing requirement, under Section 90.713(d), that an applicant for authorization on the public safety/mutual aid channels may not have an interest in more than one pending application for public safety/mutual aid channels in the same geographic area will apply only to applicants seeking authorization on Channels 166-170. Finally, in accordance with the provisions of Section 90.720(a), we will continue to permit operation, without separate authorization, on all 10 public safety/mutual aid channels, by public safety eligibles using the channels in mobile or portable radios and, in accordance with Section 90.720(b), we will continue to require base/mobile and base/portable operations on all 10 channels to be on a secondary basis to the emergency communications that are identified in that section.

(2) Assignment of EMRS Channels (Channels 181-185)

(a) *Proposal*

64. In the *Third Notice* we proposed to continue to allocate five non-nationwide channels (Channels 181-185) for use by eligibles in the Emergency Medical Radio Service (EMRS), ``in order to provide spectrum for licensees involved in the delivery of emergency medical services."[118] We also asked for comment regarding whether we should combine the 10 Public Safety channels and five EMRS channels into a single 15-channel allocation and allow EMRS and all other Public Safety entities to be eligible for these 15 channels. If we were to adopt a single, 15-channel allocation for both EMRS and Public Safety eligibles, we asked further if we should modify our existing allocation scheme to designate Channels 171-180 as the Public Safety channels so that these channels would be contiguous with the EMRS channels.[119]

65. We also indicated in the *Third Notice* that, before accepting applications for the Public Safety and EMRS channels, we would act on a Petition for Reconsideration of our 1993 *EMRS Report and Order* establishing the Emergency Medical Radio Service.[120] This petition, filed by Dr. Michael Trahos (Trahos), asked that we allow certain entities authorized in the Special Emergency Radio Service (SERS) under Part 90 of our rules (*e.g.*, physicians, disaster relief organizations, *etc*.) to be eligible to operate on the 10 Public Safety channels.[121]

66. Finally, we also noted in the *Third Notice* that the American National Red Cross (Red

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[117] There is one licensee currently authorized to operate exclusively on the 220 MHz public safety channels for base/mobile operations. That licensee, call sign WPCC439, is authorized on Channels 161-165, which are to be shared channels under our Phase II rules. We will therefore continue to allow this licensee to retain its exclusive authorization on Channels 161-165 to conduct base/mobile operations.

[118] *Third Notice*, 11 FCC Rcd at 214 (para. 46). *See* Section 90.27(a) of the Commission's Rules, 47 C.F.R. § 90.27(a).

[119] *Third Notice*, 11 FCC Rcd at 214 (para. 46).

[120] *Id*. at 214 (para. 48).

[121] Petition for Reconsideration of EMRS Report and Order filed by Dr. Michael C. Trahos, April 2, 1993. *See* Public Notice, Report No. 1936, April 27, 1993.

Cross) had filed a petition for rulemaking seeking eligibility for disaster relief organizations to use the 220 MHz Public Safety channels, and also requesting further modification of our rules to expand the ways in which disaster relief organizations could use the Public Safety channels.[122] Specifically, the Red Cross asked that disaster relief organizations be permitted to use the Public Safety channels, *inter alia*, for the establishment and maintenance of temporary relief facilities, and for limited training exercises incidental to emergency communications plans.[123] Further, the Red Cross proposes that, due to its view that the public safety channels have been underutilized by public safety entities,[124] disaster relief organizations should be given exclusive authority to use such channels.[125] In the alternative, the Red Cross asks that, if use of the public safety channels is to be shared among disaster relief organizations and other public safety eligibles, then the disaster relief organizations should be permitted to ``pre-empt" use of the frequencies ``at the locations of disaster relief efforts"[126] or that 10 channels in another band, such as the 800 MHz band, be allotted for disaster relief organizations.[127] We asked for comment on the Petition for Rulemaking of the Red Cross.

(b) *Decision*

67. There were no comments discussing our proposal to continue to designate Channels 181-185 for use by EMRS eligibles, or our request for comment on making these channels available to all Public Safety eligibles. We will therefore continue to designate channels 181-185 for the exclusive use of EMRS eligibles.[128] As explained above with respect to Public Safety channels, we believe that it is in the public interest to continue to reserve five channels for use by EMRS eligibles, without requiring EMRS applicants to compete with applicants wishing to use the spectrum for commercial offerings. This decision will further the Commission's mandate under the Communications Act to ``promote safety of life and property through use of wire and radio communication."[129] As currently provided in Section 90.713(d) of our rules with regard to applicants for other categories of non-nationwide channels (*e.g.*, trunked, data-only, public safety/mutual aid), we will require that no applicant may have an interest in more than one pending application for authorization on EMRS channels within a particular geographic area.

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[122] *Third Notice*, 11 FCC Rcd at 215 (para. 49). *See* Petition for Rulemaking, filed by the American National Red Cross, Mar. 2, 1994 (Red Cross Petition).

[123] Red Cross Petition at 10.

[124] *Id*. at 13.

[125] *Id*. at 10.

[126] *Id*. at 10-11.

[127] *Id*. at 14.

[128] We note that pursuant to the *Refarming Report and Order*, 10 FCC Rcd 10076, we are considering the realignment of the radio services encompassed by Subparts B and C of Part 90 of our Rules. If such a realignment is adopted, modifications may be made to the rules adopted herein with regard to the licensing of these channels.

[129] Section 1 of the Communications Act, 47 U.S.C. § 151.

Also, there were no comments with regard to our proposal to assign the EMRS and Public Safety channels contiguously (*i.e.*, on Channels 171-185). We believe that there are two advantages to maintaining the current channel assignment scheme:

- Existing, Phase I licensees currently operating mobile or portable radios on these channels will be able to communicate with Phase II licensees.

- Equipment manufacturers that have built mobile or portable units on these channels for Phase I licensees will be able to assemble these units for Phase II licensees without having to employ a different set of frequencies.

Based upon these considerations, we conclude that we should continue to assign the Public Safety channels on Channels 161-170.

68. With regard to the Trahos Petition, we note that we adopted an Order dealing with the various petitions for reconsideration of the *EMRS Report and Order* on January 18, 1996.[130] In that proceeding, we granted the Trahos petition, and modified Section 90.720(a) of the Commission's Rules to permit individuals eligible to be licensed under Sections 90.35 (medical services), 90.37 (rescue organizations), 90.41 (disaster relief organizations), and 90.45 (beach patrols) to be authorized to operate mobile and portable units on the 10 public safety channels, without separate authorization, and modified Section 90.720(b) of the Commission's Rules to allow such individuals to obtain authorization for base/mobile and base/portable operations on these channels.[131]

69. With regard to the Red Cross Petition,[132] we decided in the *EMRS Reconsideration Order*, as discussed above, that Public Safety eligibles and certain licensees eligible in the Special Emergency Radio Services (SERS), including disaster relief organizations, should be permitted, under Section 90.720(a) of the Commission's Rules, to operate mobile and portable radios on the 220 MHz public safety channels, without the need for separate authorization, to transmit communications: (1) relating to the immediate safety of life; or (2) to facilitate interoperability among public safety and the designated SERS entities. We recognize, however, that disaster relief organizations have unique requirements.[133] We will therefore amend Section 90.720(a) to allow disaster relief organizations to employ the 220 MHz public safety channels in the various non-emergency situations the Red Cross has identified.

70. We will not, however, confer on disaster relief organizations exclusive authority to operate on these channels or the authority to preempt other public safety users at the locations of disaster relief efforts. The 220 MHz public safety channels were intended to be used for

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[130] Amendment of Part 90 of the Commission's Rules to Create the Emergency Medical Radio Service, PR Docket No. 91-72, Memorandum Opinion and Order, 11 FCC Rcd 1708 (1996) (*EMRS Reconsideration Order*).

[131] *Id*. at 1712 (para. 23).

[132] No comments addressing the Red Cross Petition were filed.

[133] Red Cross Petition at 9-10 (noting that the more than 2,600 chapters of the Red Cross need channel use for training exercises and operational communications preparatory to disaster relief).

interoperability by all entities involved in responding to emergencies, and we therefore do not believe that it would be appropriate to permit only one such entity to have exclusive use of the channels during emergencies. We disagree with the Red Cross's assertion that because only a limited number of public safety eligibles applied for base station authorizations on the public safety channels, this indicates that public safety entities will not have a need for these channels, especially in times of emergency. As explained above, public safety licensees are permitted to use the channels for mobile and portable communications without the need for separate authorization. Thus, the need by public safety entities for the 220 MHz Public Safety channels cannot necessarily be measured by the number of applications received for base and mobile or base and portable authorizations when such applications were accepted in 1991.[134] We therefore conclude that all licensees eligible to use the 220 MHz public safety channels under Section 90.720, as amended, will be required to share the use of the channels.

71. Finally, we turn to the suggestion made by the Red Cross that we consider the allocation of channels in a different band to create a nationwide allotment of 10 channels for use by disaster relief organizations.[135] We have concluded that there is not a sufficient basis on the current record to adopt the approach advanced by Red Cross. We therefore deny this part of the Red Cross Petition, for the following reasons. First, the Red Cross, in advancing its proposal, has not provided sufficient criteria with which to weigh the merits of competing claims for spectrum allocations in the bands identified in the Red Cross Petition.[136] We do not believe that this proceeding, with its focus on licensing and service rules for services in the 220 MHz band, is an appropriate forum in which to examine and decide allocation issues affecting the utilization of other spectrum bands by incumbent or future service providers.[137] Our conclusion in this regard has been reinforced by the fact that no party has commented on the Red Cross' suggestion that we expand this proceeding to identify additional spectrum to address the concerns raised by the Red Cross in its petition.

72. Second, we believe that by authorizing disaster relief organizations to operate on the 220 MHz Public Safety channels on a shared basis with other members of the public safety community, we have satisfactorily addressed the emergency communications needs of such organizations. Further, by permitting use of the channels for the various non-emergency situations identified by the Red Cross, we enable disaster relief organizations to satisfy their unique communications requirements.

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[134] On May 1, 1991, the Commission began accepting applications for licenses in the 220-222 MHz band. On May 24, 1991, the Private Radio Bureau suspended the acceptance of such applications. *See* Acceptance of 220-222 MHz Private Land Mobile Applications, Order, 6 FCC Rcd 3333 (Priv. Rad. Bur. 1991). The continuing freeze on the acceptance of 220 MHz applications has made it even more difficult to assess whether public safety entities have need for the use of the 220 MHz Public Safety channels.

[135] Red Cross Petition at 14.

[136] *See id*. (suggesting the allocation of channels in certain 800 MHz bands).

[137] We note that the Commission is considering the future spectrum needs of all public safety entities in our Public Safety proceeding. *See Public Safety NPRM*, 11 FCC Rcd 12460.

(3) Data-Only Channels (Channels 186-200)

(a) *Proposal*

73. In the *Third Notice*, we proposed to eliminate the ``data-only'' designation for Channels 186-200.[138] As indicated in the *220 MHz Report and Order*, this designation includes ``analog non-voice transmissions'' or ``any digital transmission, voice or non-voice.''[139] We also stated our belief that it is not necessary to continue to mandate ``data-only'' operations by the approximately 300 Phase I licensees authorized on these channels, and we therefore proposed that Phase I licensees authorized on these channels be permitted to construct non-``data only'' systems.

(b) *Decision*

74. Currently, there are no rules that restrict 220 MHz licensees from transmitting ``data-only'' signals on 220 MHz channels in general, but licensees are required to transmit ``data-only'' signals on certain 220 MHz channels. The comments favor elimination of the ``data-only'' transmission requirement on these channels.[140] As stated in the *Third Notice*, we believe that in today's communications marketplace there will be sufficient demand for non-voice communications and services using digital modulation for voice communications, and therefore it is not necessary for us to allocate channels exclusively for data and digital operations. Thus, in Phase II licensing of the 220 MHz service, we will no longer reserve channels for data-only use. Furthermore, upon the effective date of the rules adopted in this proceeding, we will not require Phase I licensees authorized on Channels 186-195 to operate ``data-only'' systems. Phase I licensees currently authorized to operate on Channels 186-195 and who wish to operate non-data-only systems will therefore, upon the effective date of the rules adopted in this proceeding, be permitted to do so. Such licensees, however, will still be required to meet their deadline to construct their base station and place it in operation, or commence service, as prescribed in the *220 MHz Second Report and Order*.

c. *Assignment of the Remaining 125 Non-Nationwide Channels*

75. Having adopted rules for the Phase II licensing of the Public Safety and EMRS channels, we now turn to the licensing of the remaining 125 non-nationwide channels (*i.e.*, the 100 channels currently allocated for five-channel trunked operations, Channels 171-180, and Channels 186-200).

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[138] *Third Notice*, 11 FCC Rcd at 215 (para. 50).

[139] *220 MHz Report and Order*, 6 FCC Rcd at 2362 (paras. 40, 43).

[140] *See* Pagemart Comments at 3, Johnson Comments at 4, and Kelley Comments at 2.

(1) Initiation of Phase II Licensing

76. In the *Third Notice*, we addressed the appropriateness of proceeding at this time with Phase II licensing of the 220-222 MHz band. We noted that some of the comments in response to the *CMRS Further Notice* contended that we should not proceed with the next phase of licensing the non-nationwide 220 MHz channels until the operation of our existing licensing approach could be adequately assessed.[141] We believed, however, that we should not delay the acceptance of new applications for 220 MHz spectrum while we evaluated the utility of our existing licensing scheme. We therefore tentatively concluded that we should initiate the second phase of licensing of the non-nationwide channels. There were no comments on this issue in response to the *Third Notice*. We conclude, therefore, that we should proceed in this Order with the initiation of Phase II licensing of the 220-222 MHz band. As stated in the *Third Notice*, this action will enable ``more widespread and varied services'' to be made available to the public.[142]

(2) Eligibility

77. Currently, the 125 non-nationwide 220 MHz channels are available to applicants intending to provide subscriber-based services as well as applicants intending to use spectrum for their internal use. In the *Third Notice*, we proposed to continue to make these channels available in the second phase of licensing on an equal basis to all such applicants.[143] AMTA supports the licensing of the 125 channels for ``either commercial or non-commercial operations . . . .''[144] We conclude that applicants intending to provide subscriber-based services as well applicants intending to use spectrum for their internal use should be eligible to obtain authorizations on licenses associated with the 125 channels. All licensees authorized on these channels will also be permitted, but not required to provide interconnected service.

(3) Licensing Areas

(a) *Proposal*

78. Under our existing rules non-nationwide 220 MHz licensees are authorized on a site-by-site basis. In the *Third Notice*, however, we likened the Phase II 220 MHz service to other CMRS services (*e.g.*, narrowband PCS and 900 MHz SMR) and noted our tentative view that the 220 MHz service should be licensed within defined, geographic areas, rather than the current single-station approach. We therefore proposed that Phase II licensees authorized on the 125 non-nationwide channels be permitted to provide service within prescribed, Commission-defined geographic areas. These areas are: (1) the 172 geographic areas defined as ``Economic Areas'' (``EAs'') by the Bureau of Economic Analysis (BEA), Department of Commerce (``EA

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[141] *See, e.g.*, SEA Comments at 14-15.

[142] *Third Notice*, 11 FCC Rcd at 218 (para. 56).

[143] *Id*. at 218 (para. 57).

[144] AMTA Comments at 11.

licenses");[145] and (2) the geographic areas defined by five geographic regions described in the *Third Notice* (``Regional licenses").

(b) *Comments*

79. Commenters generally favor our proposal to license the 220 MHz band in EAs and Regions.[146] AMTA endorses licensing over these ``two distinct geographic areas," stating that it favors the use of EAs over MTAs and BTAs because ``EAs more closely approximate the coverage required by a typical consumer of a traditional two-way radio system than do either MTAs or BTAs."[147] Pagenet asserts that EA *and* Regional licensing would be a ``complement to nationwide" licensing, and would allow ``participation by small, medium and large carriers in which local to nationwide service will be provided by a number of different licensees in each marketplace."[148] Both AMTA and Comtech also request that no limit be placed on the number of channels a licensee may obtain within an EA or Region through the auction procedures.[149]

(c) *Decision*

80. In proposing these different-sized licensing areas, we indicated that these geographic areas would provide Phase II licensees with the opportunity to provide different types of service offerings, which would help them compete effectively with licensees in other communications services. We continue to believe that such a licensing approach will provide for the widest variety of communications services and, as Pagenet indicated, would allow for different-sized carriers to enter the 220 MHz marketplace. The participation in this marketplace by a variety of entities will also promote one of the objective's of Section 309(j) of the Act -- that of disseminating licenses among a wide variety of applicants. We will therefore license Phase II 220 MHz channels in EAs and Regions. As indicated in the *Third Notice*, under this licensing approach, Phase II licensees authorized in these geographic areas will be permitted to operate any number of base stations within their authorized area without being required to obtain a separate authorization for each station. However, in an effort to ensure that EA and Regional licensees and co-channel Phase I licensees will be able to co-exist, we will require 220 MHz EA and Regional licensees -- as we

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[145] The BEA has divided the Nation into regional economic areas that consist of metropolitan areas that are centers of economic activity and their economically-related surrounding counties. In February 1995, BEA concluded a redefinition of the areas based on newly available information on commuting patterns and adopted a new configuration of 172 EAs. *See* Proposed Redefinition of the BEA Economic Areas, 59 Fed. Reg. 55,416 (Nov. 7, 1994); Final Redefinition of the BEA Economic Areas, 60 Fed. Reg. 13,114 (Mar. 10, 1995). *See also* K. Johnson, ``Redefinition of the BEA Economic Areas," *Survey of Current Business*, Feb. 1995, at 75-81. We proposed to adopt BEA's list of 172 EAs to define the smallest geographic areas for Phase II licenses because of the accuracy of the redefined list in reflecting the current major markets on a local and regional basis.

[146] *See* Johnson Comments at 4; Pagenet Comments at 3; AMTA Comments at 11-12.

[147] AMTA Comments at 12, n.19.

[148] Pagenet Comments at 3.

[149] Comtech Comments at 9-10; AMTA Comments at 11.

required for 800 MHz SMR EA licensees[150] -- to provide us with notification, on a Form 600, of the technical parameters of all base stations and fixed stations.[151] EA and Regional licensees will also be required to notify us if such stations are added, removed, relocated, or otherwise modified. If such notification is provided within 30 days of station addition, removal, relocation or modification, no filing fee will be required. EA and Regional licensees must also ensure that: (1) they operate their stations in accordance with the provisions of Sections 1.1301 through 1.1319 of our Rules (Procedures Implementing the National Environmental Policy Act of 1969); (2) they operate their stations in compliance with their air safety responsibilities, as outlined in Part 17.6 of our Rules; and (3) they comply with all applicable international agreements (*e.g.*, Section 90.715 relating to operation in U.S./Mexican border areas). We also clarify that -- as we similarly provided in the *800 MHz SMR Report and Order* with regard to the channels of incumbent 800 MHz SMR licensees[152] -- if any channels of a Phase I licensee authorized in a particular EA or Region are recovered by the Commission, such channels will automatically revert to the EA or Regional licensee authorized on the channels in that EA or Region. Finally, as we indicated in the context of nationwide licensing, we believe that because 220 MHz licensees will be in competition with other communications services, such as narrowband PCS and SMR, we should allow them to obtain multiple authorizations in their EA or Region.

81. We provide a list of the codes and names for the Economic Areas in Appendix D. In response to a request by Puerto Rico Telephone Company in its comments in this proceeding, asking that we provide EA-like areas for U.S. territories,[153] we add three additional EA-like licensing areas for the 220 MHz service: EA 173 (Guam and the Northern Mariana Islands); EA 174 (Puerto Rico and the U.S. Virgin Islands); and EA 175 (American Samoa). Finally, while commenters did not address our proposed definitions for Regional licenses, we have examined our original proposal and have decided to create six Regions, rather than the five Regions proposed in the *Third Notice*. We believe that the six Regions identified in Appendix E[154] are more closely aligned with major areas of economic interest than the proposed five Regions. Also, licensing in six Regions instead of five Regions will potentially enable more providers to enter the 220 MHz service marketplace.

(4) Channel Allocation Plan

(a) *Proposed Band Plan*

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[150] 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, Implementation of Sections 3(n) and 322 of the Communications Act Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463, at 1498 (para. 52) (1995) (*800 MHz SMR Report and Order*).

[151] See Section IV.C.1, *infra*. for discussion of our decision to permit fixed operations in the 220-222 MHz band.

[152] *800 MHz SMR Report and Order*, 11 FCC Rcd at 1501 (para. 59).

[153] Puerto Rico Telephone Company Comments at 2.

[154] The six geographic areas for Regional 220 MHz licensing are referred to as Regional Economic Area Groupings (REAGs). See Appendix E.

82. In the *Third Notice*, we proposed the following band plan for non-nationwide Phase II licensing:

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN

EA BLOCK	CHANNELS
Channels 61-70	10
Channels 71-80	10
Channels 91-100	10
Channels 101-110	10
Channels 121-125	5
Channels 126-130	5
Channels 131-135	5
Channels 136-140	5
TOTAL	**60**

REGIONAL BLOCK	CHANNELS
Channels 171-180	10
Channels 186-200	15
Channels 1-10	10
Channels 11-20	10
Channels 31-50	20
TOTAL	**65**

83. In proposing this band plan, we sought to provide sufficient spectrum for all types of EA and Regional licensees to meet their communications needs. We also proposed a band plan that is comprised entirely of channel assignments involving contiguous channels. This proposal was a significant departure from the Phase I channel assignment scheme for the 125 non-nationwide channels, which contained only two contiguous channel blocks, *i.e.*, Channels 171-180 and 186-200, but provided 20 five-channel assignments consisting of channels spaced 150 kHz apart from one another.[155]

84. In the *Third Notice*, we also proposed to allow both Phase I and Phase II licensees to aggregate their contiguous channels to operate on channels wider than 5 kHz, and proposed to permit Phase I and Phase II licensees to operate paging systems on a primary basis. Our review of the resulting record indicates that developing the optimal band plan must take four elements into account: providing sufficient spectrum so that licensees will have operational flexibility;

[155] For example, the 5-channel group identified as ``Group No. 10" consists of Channels 10, 40, 70, 100, and 130. *See* Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

assigning some amount of spectrum on contiguous channel blocks; permitting aggregation of contiguous channels; and allowing paging operations on a primary basis. In the discussion that follows, we will focus on each of these four elements and explain and analyze how our consideration of each element has led us to adopt our Phase II band plan, which differs from the band plan proposed in the *Third Notice*.

(b) *Adopted Band Plan*

(i) Number of EA and Regional Channels

i. *Proposal*

85. In the *Third Notice*, we noted that Phase I licensees are authorized to use up to five channels, but we indicated that Phase II licensees operating in EAs, which would encompass areas larger than the areas covered by existing Phase I single stations, would likely have a requirement for more than five channels. We also observed that some Phase II licensees, particularly those intending to use the spectrum for their internal purposes, might not have a need for more than five channels, even if those channels are used in an area the size of an EA.[156] To accommodate the spectrum requirements of all potential EA licensees, we proposed to authorize Phase II EA licenses in five- and 10-channel blocks. We also indicated that Regional licensees, who will be offering communications services to much larger geographic areas, should be authorized on a larger number of channels, and we therefore proposed that Regional licenses be assigned in 10-, 15- and 20-channel blocks. Finally, we indicated that EA and Regional licensees needing less spectrum than provided through these particular authorizations could assign channels to other licensees in accordance with our partitioning proposals.[157]

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[156] *Third Notice*, 11 FCC Rcd at 221 (para. 63).

[157] *Id*.

ii. *Comments; Decision*

86. Most commenters favor the assignment of larger numbers of channels to individual licensees than proposed. For example, Comtech opposes the use of 5-channel blocks, saying that in its experience as a non-nationwide licensee, ``[l]icensees cannot produce sufficient revenues with only five channels to justify the investment required to construct a [base station] facility," whereas the ``incremental costs of installing an additional five channels . . . allow for the production of sufficient revenue."[158] One commenter, Pagenet, supports the proposed band plan, stating that it ``should allow . . . licensees to compete in the CMRS marketplace by offering a variety of PCS-type, one-way, two-way, data and other services."[159] AMTA suggests that the EA channels should be assigned in three 15-channel blocks and two 10-channels blocks;[160] while PCIA proposes one 5-channel block, two 10-channel blocks, one 15-channel block, and one 20-channel EA block.[161] With regard to Regional licenses, AMTA favors the assignment of two 30-channel blocks; and PCIA proposes one 10-channel block, one 15-channel block and two 20-channel blocks. Based on the comments, we conclude that it would be best to generally provide more channels to both EA and Regional licensees than initially proposed.

(ii) Contiguous Channel Blocks

i. *Proposal*

87. In the *Third Notice* we addressed the matter of whether Phase II licenses should be authorized on contiguous or non-contiguous channel assignments. We noted that when we proposed the original 220-222 MHz band plan in the *220 MHz Notice*,[162] we had explored this issue, and observed that we could authorize 220 MHz channel assignments in a manner similar to the way we authorized channels in the 900 MHz band -- where we adopted a contiguous channel assignment scheme to ``provide increased flexibility to employ spectrum efficient digital systems that may become available in the near future."[163] We indicated, however, that, in the *220 MHz Report and Order*, we had determined that increasing spectrum efficiency was more important than providing for such flexibility, and therefore adopted a non-contiguous channel assignment scheme, which enabled spectrally efficient trunking technology to be more easily implemented.[164] We tentatively decided in the *Third Notice* that ``the possible benefits that could be obtained from enabling licensees to employ contiguous channels, *e.g.*, the ability to employ spectrum efficient

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[158] Comtech Comments at 5.

[159] Pagenet Comments at 9-10.

[160] AMTA Comments at 15.

[161] PCIA Comments at 9.

[162] *220 MHz Notice*, 4 FCC Rcd at 8597 (para. 27).

[163] *900 MHz Allocation Order*, 2 FCC Rcd at 1835 (para. 74). Digital systems that employ Time Division Multiple Access (TDMA) technology, for example, would likely require channels wider than 5 kHz and thus the aggregation of 5 kHz channels would likely be necessary to enable the use of this technology.

[164] *220 MHz Report and Order*, 6 FCC Rcd at 2358 (para. 16).

digital systems, outweigh the potential technical or economic advantages of developing narrowband trunking systems,"[165] and we thus proposed a Phase II band plan consisting entirely of contiguous channel assignments.[166]

ii. *Comments*

88. Commenters are generally opposed to our proposed band plan because of our use of contiguous channel assignments. A number of commenters, for example, express concern that if we adopt the proposed band plan, Phase I licensees that wish to expand on their non-contiguous channels would have to acquire multiple Phase II assignments; and Phase II licensees that acquire contiguous channel blocks would be required to provide co-channel protection to many Phase I licensees in order to implement their systems.[167] SEA, an equipment manufacturer, also expresses concern about the technical disadvantage of employing contiguous channels when implementing ``same-site" systems on narrowband channels.[168] E.F. Johnson, however, does not foresee significant problems with the production of equipment using contiguous, as opposed to interleaved, channels. It notes that there have been problems associated with the use of antenna combiners on interleaved trunked channels, but does not expect this problem to be exacerbated by the use of contiguous channels.[169] PCIA, on the other hand, states that ``combining any number of contiguous channels together can result in significant power loss in the system using the required hybrid combiners" and contends that this problem increases with the number of channels being combined.[170]

89. PCIA and other commenters generally recommend that we maintain the existing band plan, which provides for 20 non-contiguous channel assignments (the current ``trunked" channel assignments) and 10- and 15-channel contiguous assignments (the current ``non-trunked, individual" channels on Channels 171-180 and 186-200).[171] Similarly, AMTA urges us to retain, ``to the maximum extent possible," the existing channel assignment scheme.[172] SEA, while opposed to contiguous channel assignments, proposes a compromise band plan that is derived from the current twenty 5-channel, non-contiguous 5 kHz channel assignments, and contains an

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[165] *Third Notice*, 11 FCC Rcd at 222 (para. 65) (footnote omitted).

[166] *Id*.

[167] SEA Comments at 2-3; PCIA Comments at 6-7; Securicor Comments at 4.

[168] SEA Reply Comments at 2.

[169] E.F. Johnson Comments at 5.

[170] PCIA Comments at 7.

[171] PCIA Comments at 8.

[172] AMTA Comments at 14. *See also* Incom's Reply Comments, supporting this proposal. Incom Reply Comments at 4.

assortment of EA and Regional assignments consisting of 5 kHz, 10 kHz, and 20 kHz channels.[173]

iii. *Decision*

90. Several commenters point out the difficulties that are likely to be encountered by both Phase I licensees and Phase II licensees if we adopt completely inconsistent Phase II and Phase I band plans. We are concerned that a Phase II licensee operating on a contiguous 10-channel block, consisting of Phase I channels assigned on a non-contiguous basis, could be required to provide co-channel protection to 10 or more Phase I licensees operating in its EA and to an even greater number of Phase I licensees in its Region. For example, a Phase II EA licensee authorized on the proposed channel block consisting of Channels 61-70 could have to protect 10 or more Phase I licensees authorized on Phase I trunked channel Group Nos. 1-10.

91. We therefore conclude that adopting a band plan consisting entirely of contiguous channel assignments could inhibit the ability of many Phase II licensees to implement their systems. We therefore find that the best resolution of this issue is to adopt a band plan patterned after the existing channeling scheme -- *i.e.*, a combination of non-contiguous *and* contiguous channel assignments. We also note that in this Order we are adopting partitioning for Phase II EA, Regional and nationwide licensees[174] and are proposing to allow all 220 MHz licensees to disaggregate their spectrum.[175]

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[173] SEA proposes four EA assignments (5 kHz each) -- derived from channel Groups 17, 18, 19, and 20; four EA assignments (10 kHz each) -- derived from channel Groups 9 and 10, 11 and 12, 13 and 14, and 15 and 16; two Regional assignments (10 kHz each) derived from channel Groups 1 and 2, and 3 and 4; and one 20 kHz Regional assignment derived from channel Groups 5, 6, 7, and 8. (The channel Groups indicated in this assignment plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3," *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.) SEA Comments at 4.

[174] See para. 308, *infra*.

[175] See para. 321, *infra*.

(iii) Paging on a Primary Basis

i. *Proposal*

92. In the *Third Notice*, we indicated that our current rules permit 220 MHz licensees to operate paging systems only on an ancillary basis to the licensee's primary land mobile operations, and we proposed to allow Phase I and Phase II 220 MHz licensees to provide paging communications on a primary basis.[176] In making this proposal, we noted that in recent years we had allocated or expressed the intention of allocating increasing amounts of spectrum for regional and nationwide paging operations -- *e.g.*, narrowband PCS spectrum -- which will likely be used for advanced paging services.[177] Because of this, we reasoned that removing the current restriction on paging in the 220 MHz band would not have a significant adverse effect on the development of the 5 kHz industry by turning the band into one primarily used for paging services. We tentatively concluded, instead, that allowing paging operations on a primary basis in the 220 MHz band would enable 220 MHz licensees to compete more effectively in the mobile communications marketplace with wireless providers in other bands.[178]

ii. *Comments*

93. SEA is opposed to allowing paging in the 220 MHz band. It argues that there is no shortage of other paging spectrum and that ``[t]he higher potential for this band as originally envisioned by the Commission should not be squandered by allowing it to become just one more band for the provision of paging services."[179] Other commenters generally support removing the restrictions on paging operations in the 220 MHz band.[180] E.F Johnson, while not opposed to paging operations, is concerned that such permitted use of the 220 MHz band may ``dilute the development of narrowband trunked systems."[181] Pronet does not object to our permitting Phase II licensees to provide paging on a primary basis, but opposes allowing Phase I licensees to have this flexibility. Pronet suggests that allowing Phase I licensees to provide paging on a primary basis would ``confer an enormous and unfair advantage on Phase I licensees, while inflicting substantial competitive harm on operators licensed to provide paging in the 150, 450 and 900

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[176] *Third Notice*, 11 FCC Rcd at 231 (para. 85).

[177] Amendment of the Commission's Rules To Establish New Narrowband Personal Communications Services, GEN Docket No. 90-314, First Report and Order, 8 FCC Rcd 7162 (1993) (*Narrowband PCS Order*).

[178] *Id.*

[179] SEA Reply at 6.

[180] AMTA Comments at 18; Comtech Comments at 9 (seeking assurance that paging operations will apply to Phase II *and* Phase I licensees); Overall Wireless Comments at 2; Kelley Comments at 3; PageNet Comments at 12; Metricom Comments at 3.

[181] E.F. Johnson Comments at 6.

MHz bands."[182]

94. In its reply comments, Comtech asks that we reject Pronet's arguments, contending that the Commission's mandate is to protect competition, not competitors.[183] Metricom, in disagreeing with SEA's position, states that:[184]

> [W]hether or not there is adequate spectrum for paging is irrelevant to the issue of whether paging should be permitted in the 220 MHz band. The real issue is whether licensees should be allowed to provide the services consumers desire. . . . [I]f adequate spectrum exists for paging, and ample paging services are being offered to the public, then there would not be a market for paging services in the 220 MHz band and licensees would have little, if any incentive to offer such services.

In arguing against Pronet's position, Metricom contends that no unique windfall will accrue to Phase I licensees, and that such licensees would receive no more windfall than licensees who provide paging on other spectrum that was not auctioned.[185]

iii. *Decision*

95. Commenters are divided on the issue of whether we should allow 220 MHz licensees to operate paging systems on a primary basis. SEA, for example, is concerned that if we were to permit paging on a primary basis, the 220-222 MHz band could become merely an additional band for the provision of paging services.[186] Other commenters favor paging operations in the band because they believe that it will provide consumers with additional options in meeting their paging needs. Pronet is concerned that it would be unfair to existing paging licensees in other bands to permit existing licensees on the 220 MHz band potentially to provide paging services.[187] In proposing to eliminate the restriction on primary paging operations in the 220 MHz band, we expressed a desire to provide additional spectrum for a rapidly growing communications service, and to enable 220 MHz licensees to compete more effectively in the wireless marketplace.[188] We continue to believe that it is appropriate to allow the marketplace to determine the services offered to consumers, and therefore we will permit Phase I and Phase II licensees to operate paging systems on a primary basis. We believe that if there is sufficient consumer demand for paging services, both Phase I and Phase II licensees should have the opportunity to provide these

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[182] Pronet Comments at 3. Pronet believes that this will occur because Phase I licensees' spectrum ``was awarded by lottery that they had the good fortune of winning, and because the Commission subsequently decided to expand 220 MHz land mobile service to include paging." Pronet Comments at 4.

[183] Comtech Reply at 7.

[184] Metricom Reply at 3.

[185] *Id*. at 6.

[186] SEA Reply at 5-6.

[187] Pronet Comments at 2-3.

[188] *Third Notice*, 11 FCC Rcd at 231 (para. 87).

services. We disagree with Pronet's argument that we should not permit Phase I licensees, in general, to operate paging systems because they acquired their spectrum through lottery at a time when paging was prohibited on a primary basis in the 220 MHz band. We agree with Metricom's assertion that 220 MHz licensees would be receiving no more ``windfall" in this regard than 150 MHz, 450 MHz and 900 MHz paging licensees that, too, acquired spectrum that was not auctioned, and therefore conclude that permitting paging on a primary basis by both Phase I nationwide and non-nationwide licensees is appropriate.

(iv) Aggregation of 5 kHz Channels

i. *Proposal*

96. In the *Third Notice* we addressed the question of whether it was necessary to continue to require that 5 kHz technology be utilized in the 220 MHz band to the *exclusion* of other technologies. We expressed the belief that our use of five kHz channels unnecessarily restricts the array of services that can be provided in the 220 MHz band and prevents other, perhaps equally spectrally efficient, technologies from being employed. We noted, for example, that time-division technology used in cellular and SMR bands may be at least as spectrally efficient as 5 kHz channels.[189] We therefore tentatively concluded that we should remove the required use of 5 kHz channels in the 220 MHz band, and allow licensees to aggregate their authorized frequencies to create wider bandwidth channels.[190] We observed that removing this restriction would, for example, allow a Phase II licensee authorized on one of the proposed 10-channel blocks to create a single 50 kHz block.

97. In drawing this tentative conclusion, we acknowledged that allowing 220 MHz licensees to aggregate their channels would be a departure from our initial decision not to allow 220 MHz licensees to ``group narrowband channels to create a wideband voice channel."[191] We noted, however, that in the *900 MHz Allocation Order*, allocating the 900 MHz private land mobile frequencies, we had decided to adopt a contiguous channel assignment scheme to ``provide increased flexibility to employ spectrum efficient digital systems"[192] and to allow 900 MHz licensees to ``combine contiguous channels;"[193] and we tentatively concluded that the flexibility we had sought for licensees in the 900 MHz band also should be available to licensees in the 220 MHz band. Enabling licensees to aggregate their 5 kHz channels, we tentatively concluded, would allow them to use their limited amount of spectrum to employ the widest

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[189] *Id*. at 229 (para. 81).

[190] We also noted that while all of the nationwide Phase I channels were assigned in contiguous channel blocks, most of the non-nationwide Phase I channels were assigned on the 5-channel trunked assignments, which are composed of non-contiguous channels. Thus, only Phase I non-nationwide licensees authorized on the individual channels (*i.e.*, Channels 161-170, Channels 171-180, and Channels 186-195) would be able to easily take advantage of this option. *Id*. at 229-30 n.128 (para. 82).

[191] *220 MHz Notice*, 4 FCC Rcd at 8597 n.49 (para. 27).

[192] *900 MHz Allocation Order*, 2 FCC Rcd at 1835 (para. 74).

[193] *Id*. at 1835 (para. 77). *See* Section 90.645(h) of the Commission's Rules, 47 C.F.R. § 90.645(h). Channels authorized in the 896-901/935-940 MHz bands under Part 90 are assigned in blocks of 10 contiguous 12.5 kHz channels.

variety of technologies to best meet the communications requirements of consumers.

ii. *Comments*

98. Several commenters disagree with our proposal to allow 220 MHz licensees to aggregate their contiguous channels, arguing that there are many other spectrum bands, such as PCS, cellular, 800 MHz SMR, and 900 MHz SMR, where digital and other technologies can and are being used, but that only in the 220-222 MHz band must 5 kHz, narrowband technology be employed.[194] These commenters, especially manufacturers of 5 kHz equipment, assert that, if we adopt this proposal, we would be abandoning our commitment to the implementation of narrowband technologies and would severely jeopardize their ability to continue to develop and market that technology.[195] Other commenters, however, support the proposal to allow the aggregation of channels, arguing that this type of flexibility will allow 220 MHz licensees to offer a wider variety of communications services and more effectively compete in the wireless marketplace.[196]

iii. *Decision*

99. We find that there is some merit to the arguments of commenters opposed to our proposal to allow licensees to aggregate their channels. There are several other spectrum bands where wider channels -- *e.g*., 12.5 kHz, 25 kHz, 30 kHz, and 50 kHz channels -- are currently employed, and within which a variety of analog and digital technologies are being used.[197] The 220-222 MHz band, however, is the only spectrum band where users must employ 5 kHz, narrowband technology.

100. In the *220 MHz Allocation Order*, we allocated this spectrum for land mobile use as a means for promoting spectrum efficient technologies, and then adopted a 5 kHz channelization plan in the *220 MHz Report and Order*. We now conclude that we should continue to support the ongoing development and implementation of narrowband, 5 kHz systems, and reaffirm our commitment to make the 220-222 MHz band a home for spectrally efficient technology. We do not believe, however, that to do this requires that we devote the entire two megahertz of spectrum in this band *exclusively* to narrowband technology. As discussed *supra*, we believe that some distribution of both contiguous and non-contiguous channel assignments in the Phase II band plan is appropriate. In order to allow the 220-222 MHz band to continue to be used to foster the development of narrowband technology, we now conclude that we should adopt a distribution of non-nationwide channel assignments consisting of *more* non-contiguous than

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[194] *See* SEA Comments at 13; PCIA Comments at 8. *See also* Securicor Comments at 11; E.F. Johnson Comments at 6.

[195] *See* SEA Comments at 9-10; SEA Reply at 5; E.F. Johnson Comments at 6; PCIA Comments at 8.

[196] *See* AMTA Comments at 18; Metricom Comments at 4; Comtech Comments at 6; Pagenet Comments at 11-12. S*ee also* Global Comments at 1 (supporting channel aggregation only for nationwide licensees), and Motorola *Ex Parte* Comments dated March 18, 1996, May 16, 1996, and July 12, 1996.

[197] These wider channels are found in the 900 MHz and 800 MHz SMR bands, the Cellular Radio band, and the narrowband PCS band. *See* Sections 90.613 (800 and 900 MHz bands), 22.905 (Cellular radio band), and 24.129 (Narrowband PCS band) of the Commission's Rules, 47 C.F.R. §§ 90.613, 22.905, and 24.129.

contiguous channel assignments.

101. Under such a channel plan, we will allow Phase I and Phase II licensees operating on the 125 non-nationwide channels to aggregate any of their contiguous channels. A licensee authorized on non-contiguous channel assignments may aggregate contiguous channels by either acquiring several such non-contiguous channel assignments or, in the future, by possibly acquiring ``disaggregated'' channels.[198] Thus, applicants for Phase II licenses on these channels will be able to seek the type of spectrum authorization that will best meet their needs -- *i.e.*, prospective licensees intending to employ a particular technology or provide a particular service that may require channels greater than 5 kHz will be able to seek one of the available contiguous channel blocks and will be able to aggregate such channels, and use them subject to our spectrum efficiency standard. Applicants who intend to construct systems using narrowband technology would have the option of obtaining *either* a non-contiguous channel assignment or a contiguous channel block. By allowing licensees to aggregate channels, the marketplace will determine the viability of 5 kHz technology, while retaining our commitment to spectrum efficiency. That is, if prospective licensees believe that implementing two-way dispatch systems on narrowband channels will be a successful business venture, then they will likely attempt to acquire the available non-contiguous channel blocks and use their authorized ten or fifteen 5 kHz channels discretely. Conversely, if prospective licensees believe that there is greater potential in operating a spectrally efficient system on contiguous channels, they will likely attempt to acquire contiguous channel authorizations and aggregate their channels.

102. Additionally, we conclude that licensees authorized to operate on the contiguously-assigned public safety/mutual aid and EMRS channels (Channels 161-170 and Channels 181-185, respectively) should not be permitted to aggregate their channels. As explained above, these channels were allocated, in part, to enable public safety entities to communicate with one another in emergencies. To permit licensees to aggregate their channels could result in some licensees employing 5 kHz technology, while others employ non-5 kHz technologies, and this could limit the interoperability we seek to achieve on these channels.

103. Based on the various considerations discussed in the preceding paragraphs, we adopt the following Phase II band plan for non-nationwide channels:

(c) *Features of the Band Plan*

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN[199]

EA BLOCK	CHANNELS

[198] See Sections V and VI, *infra*, for discussion of disaggregation.

[199] Assignments A, B, C, D, F, G, H and I are composed of channels assigned in a non-contiguous manner. Assignments E and J are composed of contiguously assigned channels.

A: Channel Groups[200] 2, 13	10
B: Channel Groups 3, 16	10
C: Channel Groups 5, 18	10
D: Channel Groups 8, 19	10
E: Channels 171-180	10
TOTAL	**50**

REGIONAL BLOCK	CHANNELS
F: Channel Groups 1, 6, 11	15
G: Channel Groups 4, 9, 14	15
H: Channel Groups 7, 12, 17	15
I: Channel Groups 10, 15, 20	15
J: Channels 186-200	15
TOTAL	**75**

104. This band plan contains a number of features that we believe will, to the extent possible, satisfy the concerns and meet the needs of most, if not all, of the parties in this proceeding. First, we authorize assignments of no less than 10 channels. This addresses the concerns of commenters who believe that more than 5 channels will be needed to enable Phase II licensees to serve their areas of operation adequately. While we believe that 10 channels are the minimum necessary to provide satisfactory service in EAs and Regions, we remain convinced that 5 channels are sufficient for Phase I licensees operating on single stations.

105. Second, we address the concerns of commenters who have observed that, under our original proposal, Phase I licensees authorized on the 5-channel, non-contiguous trunked assignments would have to acquire at least five separate Phase II authorizations in order to expand geographically on their channels. The reason that Phase I licensees would have faced this problem under our proposed band plan is that, for example, a licensee authorized on trunked channel Group No. 1 -- which includes Channels 1, 31, 61, 91, and 121 -- would have to have obtained Phase II authorizations on Channel Blocks 1-10, 31-50, 61-70, 91-100, and 121-125 in order to expand on its channels. However, under the band plan we are adopting in this Order, the EA and Regional assignments derived from the 5-channel, non-contiguous Phase I assignments are composed of groupings of two or three of these assignments (*e.g.*, EA Assignments A, B, C, and D -- each of which are composed of two 5-channel non-contiguous Phase I assignments; and Regional Assignments F, G, H, and I -- each of which are composed of three 5-channel non-contiguous Phase I assignments). Thus, Phase I licensees authorized on Group Nos. 1-20 will be able to expand on all of their channels by obtaining authorization on a single Phase II assignment (*e.g.*, a Phase I licensee authorized on Group No. 1 would, by acquiring Assignment F, be able to expand on all five of its existing channels).

106. Third, by authorizing assignments derived from the Phase I trunked groups, we

[200] The Channel Groups indicated in the allocation plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3," *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

address commenters' concerns about the need of Phase II licensees to provide co-channel protection to many Phase I licensees. Under our proposed band plan, a Phase II licensee authorized on a contiguous 10- or 20-channel block derived from the Phase I trunked channels (*e.g*., the proposed EA block consisting of Channels 61-70, or the proposed Regional block consisting of Channels 31-50) would have had to potentially provide protection to a large number of Phase I licensees in their particular area of operation (*e.g.*, a Phase II licensee authorized on the EA block consisting of Channels 61-70 would have had to protect Phase I licensees authorized on channel Groups Nos. 1 through 10, if such licensees were operating in its EA or in an adjoining EA; and the Phase II licensee authorized on the Regional block consisting of Channels 31-50 would have had to protect Phase I licensees authorized on *all twenty* of the trunked channel groups, if such licensees were operating in its Region or in an adjoining Region). Under the plan we are adopting, however, Phase II licensees will potentially have to protect far fewer Phase I licensees -- *e.g*., EA licensees will only have to protect Phase I licensees in their EA, or in an adjoining EA, operating on the two channel groups that comprise their 10-channel system; and Regional licensees will only have to protect Phase I licensees in their Region, or in an adjoining Region, operating on the three channel groups that comprise their 15-channel system.

107. Fourth, we continue to allocate the 100 non-contiguous Phase I channels in the form of 5 kHz, non-contiguous channel assignments (Assignments A-D, and F-I). This will provide a number of assignments to those licensees who wish to operate 5 kHz, narrowband trunked systems and prefer to operate on channels spaced apart from each other. Licensees authorized on one of the two channel blocks consisting of contiguous channels (Assignments E and J), however, will not be precluded from operating on the individual 5 kHz channels that comprise these blocks (*e.g.*, licensees authorized on Assignment J could operate on 15 discrete 5 kHz channels instead of a single 75 kHz block), and will thus have the option of employing *either* narrowband technology or aggregating their channels to employ other technologies or to provide services that may be more easily accommodated on wider channels, consistent with our spectrum efficiency standard.

108. Fifth, our decision to continue to allocate the 100 non-contiguous Phase I channels in the form of 5 kHz, non-contiguous Phase II channel assignments largely addresses the concerns raised by SEA and PCIA regarding possible technical difficulties associated with the construction of base stations on contiguous channel blocks. We *are* allocating two Phase II assignments on contiguous channels (Assignments E and J), but the channels associated with these assignments were assigned contiguously in the *220 MHz Report and Order* -- those concerns notwithstanding.[201] Furthermore, PCIA's concern that combining up to 20 contiguous channels could result in significant power loss is alleviated to some extent by our decision to employ a maximum of only 10 and 15 contiguous channels, respectively, for Assignments E and J.

109. Finally, we conclude that our decision to license Phase II spectrum in this manner is consistent with the objectives identified in Section 309(j)(4)(C) of the Act. That is, the bandplan -- which contains both EA and Regional licenses and includes both contiguous and non-contiguous assignments -- coupled with our decision to permit paging operations on a primary basis, will enable both large and small entities to provide a wide variety of communications services to the public and promote competition in the CMRS marketplace.

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[201] *In the 220 MHz Notice*, we noted that the use of contiguous channels in the 220 MHz band would not preclude the use of trunking technology. *See 220 MHz Notice*, 4 FCC Rcd at 8597 (para. 27).

(5) Spectrum Efficiency Standard

(a) *Proposal*

110. In the *Third Notice*, we tentatively concluded that, because we had sought to encourage the development of spectrally efficient technologies at the time we initially reallocated the 220-222 MHz band, we should require licensees choosing to aggregate channels to maintain a degree of spectrum efficiency at least equivalent to that obtained through 5 kHz channelization. We asked, alternatively, whether our proposal to license through competitive bidding would provide sufficient incentives for licensees to use their spectrum efficiently, thus obviating the need for a specific spectrum efficiency standard.[202]

(b) *Comments*

111. Some equipment manufacturers favor the adoption of a spectrum efficiency standard.[203] For example, SEA states that, because we have proposed construction requirements for Phase II 220 MHz licensees and have adopted such deadlines for narrowband PCS, ``it would appear that the Commission believes that competitive bidding does not provide sufficient incentives for the timely build-out of systems."[204] SEA concludes that if the Commission decides to permit channel aggregation, then ``efficiency standards will be needed to encourage spectrum efficient use," and thus proposes that we adopt a standard that would require one voice channel per 5 kHz (for voice communications) and a 4,800 bps data rate (for data communications).[205] Securicor, in its reply comments, asks that, if we permit ``wide-band systems" in the 220 MHz band, we should avoid taking ``a step backward by not requiring the deployment of spectrally efficient technology."[206] Securicor therefore proposes that we provide ``one high-grade voice channel with performance equaling that of a toll quality telephone circuit and a data rate of 14.4 kbps for every 5 kHz of spectrum aggregated."[207]

112. Other commenters, however, argue that an efficiency standard is not necessary or appropriate. For example, Comtech believes that ``competitive bidding will ensure that spectrum is used as intensively as possible" and that ``licensees will have every incentive to derive as much

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[202] *Third Notice*, 11 FCC Rcd at 230 (para. 83).

[203] Motorola did not raise the issue of spectrum efficiency standards, but did support our proposal to allow the aggregation of contiguous 5 kHz channels. Motorola *Ex Parte* Comments, March 18, 1996; May 16, 1996; and June 12, 1996.

[204] SEA Comments at 16-17. SEA also notes that ``[c]ompetitive bidding encourages profitable use of spectrum, but, given the costs of modern efficient technologies, the most profitable use of the spectrum is not always the most efficient use." *Id*. at n. 27.

[205] *Id*. at 17.

[206] Securicor Reply at 5.

[207] *Id*. at 6.

revenue as possible from their spectrum, to offset the cost of securing the spectrum."[208] Pagenet notes that ``if the Commission were to artificially limit the ability of the 220 MHz license [sic] to offer services, [it] will place 220 MHz licensees at a disadvantage in the marketplace because the other CMRS licensee [sic] are not subject to narrowband channelization spectrum efficiency requirements."[209] Pagenet further observes that if the Commission were to require licensees to meet a spectrum efficiency standard, it would be limiting the number of service offerings that could be provided in the band. Metricom contends that competitive bidding and the marketplace will ``ensure that licensees utilize their spectrum in a technologically efficient manner. [Whereas,] [a]n arbitrary spectral efficiency parameter . . . will only hinder the ultimate development of the band." [210]

(c) *Decision*

113. One of our principal goals in establishing the 220-222 MHz band was to encourage the development of spectrally efficient technologies. Some commenters believe that a spectrum efficiency standard should be adopted for those licensees aggregating contiguous channels to ensure that spectrum in the band continues to be used efficiently. Other commenters, however, believe that licensees acquiring 220 MHz spectrum through competitive bidding will have sufficient incentives to use that spectrum as efficiently as possible. Still others point out that a spectrum efficiency standard could preclude the provision of certain communications services.

114. We conclude that a spectrum efficiency standard should be adopted for the 220-222 MHz band, and applied to licensees aggregating contiguous 5 kHz channels. In adopting this requirement, we note that we do not disagree with commenters that suggest that licensees acquiring 220 MHz spectrum through competitive bidding will likely have the incentive to use their spectrum efficiently. We believe, however, that our adoption of a mandatory spectrum efficiency standard at this time is an appropriate and effective means of ensuring that licensees aggregating contiguous channels will operate in an efficient manner.

115. Nor do we find it necessary to resolve the claims of those parties that assert that our adoption of a standard could prevent certain types of communications service from being provided in the 220-222 MHz band. In response to such claims, we must emphasize that our purpose in adopting a spectrum efficiency standard is not to prevent the offering of new and innovative services in the band. Rather, we believe that by adopting a spectrum efficiency standard, we will encourage the development of spectrally efficient technologies in any number of other wireless communications services that may eventually be provided in the band. Such an objective is in keeping with our adoption of 5 kHz channelization for the band in the *220 MHz Report and Order* in order to stimulate the development of spectrally efficient technologies in the land mobile radio services.

116. We therefore conclude that Phase I and Phase II licensees combining contiguous 5 kHz channels to operate on channels wider than 5 kHz will be required to meet the following

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[208] Comtech Comments at 9.

[209] Pagenet Comments at 14.

[210] Metricom Comments at 4.

spectrum efficiency standard: For voice communications, a licensee must employ equipment that provides at least one voice channel per 5 kHz of channel bandwidth. For data communications, a licensee must employ equipment that operates at a data rate of at least 4,800 bits per second per 5 kHz of channel bandwidth.

117. We will implement this decision through our type acceptance process. Thus, upon the effective date of the rules adopted in this proceeding, a request by any equipment manufacturer or other party for Part 90 type acceptance of transmitters designed to operate in frequencies in the 220-222 MHz band and not designed to operate on channel bandwidths of 5 kHz or less (as currently required by our rules), must demonstrate that the equipment meets the spectrum efficiency standard we have adopted in this Order.

118. We desire to encourage new and innovative efficient technologies to benefit users of this band and the public. Therefore, as we did in our recently adopted *Refarming Reconsideration Order*,[211] we will provide manufacturers with additional flexibility to design spectrally efficient transmitters. Manufacturers may obtain type acceptance for equipment that does not meet the voice or data efficiency standard if: (1) the manufacturer submits a technical analysis with its application for type acceptance demonstrating that the equipment will provide more spectral efficiency than that which would be provided by use of the voice or data efficiency standard; and (2) this technical analysis is deemed to be satisfactory by the Commission's Equipment Authorization Division.[212] Licensees may employ equipment that does not meet the spectrum efficiency standard only if such equipment has been type accepted in this manner.

119. Finally, we believe that the spectrum efficiency standard should only remain in effect through December 31, 2001. This, we believe, will provide a fair and appropriate time period for spectrally efficient technologies to develop in the 220-222 MHz band, and will enable other innovative technologies and services to eventually be introduced into the band as well. We believe that this decision also balances our goal of stimulating the development of spectrally efficient technology with our desire to rely on market forces to spur the production of efficient technology, and to grant licensees flexibility to determine the technology that best suits their needs. We agree with commenters that our decision to use competitive bidding for Phase II licenses will encourage efficient use of the spectrum. We want to ensure, however, the availability of spectrally efficient equipment in this band. We are also confident that, by the beginning of 2002, the state-of-the-art in wireless equipment will have exceeded our standard, and there will therefore no longer be a need to mandate a standard for the 220-222 MHz band.

(6) Emission Mask

(a) *Proposal*

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[211] Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, Amendment of the Commission's Rules Concerning Maritime Communications, PR Docket No. 92-257, Memorandum Opinion and Order, 11 FCC Rcd 17676 (1996) (*Refarming Reconsideration Order*).

[212] We recognize that manufacturers may be reluctant to engage in the research and development necessary for new equipment without knowing whether proposed equipment meeting specified standards would be eligible for this option. Accordingly, upon specific request, the Equipment Authorization Division will advise applicants who desire to develop equipment for this band as to the acceptability of their technical analysis.

120. In the *Third Notice*, we indicated that, on channel assignments composed of contiguous channels, where licensees may aggregate their channels, licensees would no longer be required to adhere to the existing channel emission masks at the edge of each of their authorized five kHz channels. To prevent adjacent channel interference to licensees operating on channels outside their channel block, however, we proposed that licensees authorized on contiguous channel assignments be required to conform to the mask at the outer edge of their channel blocks.[213] We also noted that allowing licensees to refrain from complying with the emission masks of each of the ``inside" channels in their block would result in licensees transmitting stronger out-of-band signals than are currently permitted by our rules. We tentatively concluded, however, that, because licensees constructing base stations must adhere to the required co-channel separation criteria with respect to all co-channel licensees in their area, the increased strength of out-of-band signals would not result in any increased likelihood for harmful interference to co-channel licensees.[214]

(b) *Comments*

121. SEA favors requiring licensees to conform with the emission mask at block edges ``to ensure appropriate protection to adjacent channel neighbors," and agrees that ``as long as the ERP/HAAT and geographic separations are maintained as specified in the current rules, the increased signal strength between channels will not result in an increased likelihood of harmful interference to co-channel licensees."[215] Metricom agrees with the proposal, and also proposes eliminating the frequency stability requirements for all inside channels, indicating that this ``will have no adverse impact on adjacent channel licensees so long as the emission mask requirements are met at the 'outside' channels."[216]

(c) *Decision*

122. We adopt our proposal to eliminate the emission mask at the edge of the ``inside" channels for Phase I and Phase II licensees authorized on contiguous channel assignments. Such licensees will only have to comply with the emission masks at the outer edge of their channel blocks. We also adopt Metricom's proposal to eliminate the frequency stability requirements for the inside channels of licensees aggregating their channels. Finally, with regard to the issue of whether allowing licensees to refrain from complying with the emission masks of each of the ``inside" channels in their block would result in licensees transmitting stronger out-of-band signals and thus potentially causing interference to co-channel licensees, we conclude that because licensees constructing base stations must adhere to the required co-channel separation criteria with respect to all co-channel licensees in their area, the increased strength of out-of-band signals will not result in any increased likelihood for harmful interference to co-channel licensees.

d. *Procedures for Assignment of Non-Nationwide Channels*

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[213] *Third Notice*, 11 FCC Rcd at 230 (para. 84).

[214] *Id.*

[215] SEA Comments at 15-16 (emphasis omitted).

[216] Metricom Comments at 5.

(1) In General

(a) *Proposal*

123. We have decided in this Order that the 125 non-nationwide channels should be available on an equal basis to licensees using the spectrum for subscriber-based services and licensees using the spectrum to meet their internal communications needs. In the *Third Notice*, we indicated that we would not be able to determine in advance of authorization which of these types of licensees will acquire the spectrum, and thus we would not be able to conclude with absolute certainty the principal use of this spectrum.[217] We also tentatively concluded that the principal use of the Phase II non-nationwide spectrum on the 125 channels is likely to be for the transmission or reception of communications signals to subscribers for compensation, based upon two factors: (1) most Phase I non-nationwide applicants appear to intend to use their spectrum for for-profit services; and (2) we proposed to continue to allow non-nationwide 220 MHz licensees using spectrum for internal communications to lease excess capacity to provide service to subscribers.[218] We further tentatively concluded that, in accordance with Section 309(j)(2)(A) of the Communications Act, mutually exclusive applications for initial licensing of these channels should be assigned through competitive bidding, and we sought comment on this decision.[219]

(b) *Decision*

124. APCO raises a concern about our proposal to assign mutually exclusive applications for the 125 channels through competitive bidding. We address the issue raised by APCO in the following Section (*infra* at para. 128). APCO's concern notwithstanding, we conclude that, based on our analysis in the *Third Notice* that the principal use of the spectrum is likely to be for the transmission or reception of communications signals to subscribers for compensation, we should assign mutually exclusive applications for licenses on the 125 channels through competitive bidding. In reaching this conclusion, we find that assigning this spectrum through competitive bidding will promote Section I of the Communications Act and the objectives described in Section 309(j)(3) of the Communications Act, as discussed in the *Third Notice*. We also adopt our proposal to continue to allow non-nationwide 220 MHz licensees using their spectrum for internal communications to lease excess capacity of their systems, and thereby provide service to subscribers. However, to the extent such a licensee, in leasing excess capacity, meets our definition of a Commercial Mobile Radio Service provider, it will be subject to regulation as a CMRS provider.

(2) Public Safety and EMRS Entities

(a) *Proposal*

125. In the *Third Notice* we tentatively concluded that we should continue to authorize

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[217] *Third Notice*, 11 FCC Rcd at 224 (para. 70).

[218] We observed that the *Competitive Bidding Second Report and Order* provides guidance for determining the likely principal use of a service. *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2353-54 (paras. 30-36).

[219] *Third Notice*, 11 FCC Rcd at 225 (para. 71).

the 10 Public Safety and five EMRS channels on a first-come, first-served basis -- with stations authorized at a single location, and protected in accordance with our 120-km co-channel separation criteria. We also concluded that, because these channels will not be used principally for the provision of subscriber-based services for compensation, in accordance with Section 309(j) of the Communications Act, they should be assigned through random selection procedures.[220]

126. We noted further that our current rules permit Public Safety entities, including those eligible in the EMRS, to apply for *all* of the non-nationwide 220 MHz channels, including the 125 channels. We therefore tentatively concluded that, because we believed that the principal use of the 125 non-nationwide channels was likely to be for the provision of subscriber-based service for compensation and therefore to be assigned through competitive bidding, Public Safety and EMRS entities seeking these channels would also be required to obtain them through competitive bidding. We also noted, however, that because we had only received three applications from Public Safety entities for authorization on the Public Safety channels in Phase I, we believed that Public Safety users would be adequately accommodated by our continued allocation of the 10 channels reserved for their sole use.[221]

(b) *Comments*

127. APCO asserts that the fact that only three applications were filed for the Public Safety channels in Phase I ``is not an accurate reflection of actual pubic safety interest in or demand for these frequencies."[222] APCO argues further that, because 10 channels designated for Public Safety use are not enough for many large, state-wide mobile data communications networks, we should ``provide realistic opportunity for public safety to obtain more than 10 channels."[223] APCO further notes that ``if subject to competitive bidding, the channels would be lost forever to commercial interests since state and local government agencies are in no position to compete in spectrum auctions."[224] APCO concludes, therefore that we should refrain from implementing competitive bidding for all of the remaining 125 non-nationwide channels.[225]

(c) *Decision*

128. In the 2*20 MHz Report and Order*, we decided to allocate 10 channels solely for use by Public Safety eligibles, and in this Order we have decided to retain, but not expand this allocation. We made this decision because while there appears to be some need on the part of public safety entities for use of 220 MHz channels, we have no way to judge, at this time, the actual level of that demand. While APCO may be correct in its assertion that the existing

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[220] *Id*. at 225 (para. 72).

[221] *Id*. at 225 (para. 73).

[222] APCO Comments at 2.

[223] *Id*. at 3.

[224] *Id*. at 2.

[225] *Id*. at 3.

applications for the 220 MHz Public Safety channels do not accurately represent the real demand for these frequencies, we have no other evidence of demand for these channels at this time. In order to ensure that Public Safety entities have access to the spectrum resources they need to fulfill their missions, however, the Commission is currently examining the operational, technical, and spectrum needs of the public safety community through the year 2010.[226] This proceeding will draw extensively from the work of the Public Safety Wireless Advisory Committee, which has released its Final Report. That report noted the existing use of the 220 MHz band for Public Safety, but did not recommend that additional channels from the 220 MHz band be made available for Public Safety use. The concerns that APCO has raised about the possible need for additional spectrum by public safety entities will be fully addressed in the public safety proceeding. We therefore conclude that we should not assign licenses for any of the 125 non-nationwide channels by any means other than competitive bidding.

129. We also conclude that Public Safety Channels 166-170 and the five EMRS channels should be assigned on first-come, first-served basis -- with stations authorized at a single location, and protected in accordance with our existing co-channel separation criteria.[227] If any mutually exclusive applications are filed on the same day, we will choose from among these applications based on random selection procedures. Under Section 309(i) of the Act, the Commission has the authority to use random selection procedures for awarding licenses from among mutually exclusive applications if the Commission has determined that the use of the spectrum is not consistent with Section 309(j)(2)(A).[228] Section 309(j)(2)(A) states that competitive bidding may be used if the principal use of the spectrum is reasonably likely to involve a subscriber-based service. Because the Public Safety and EMRS channels are not reasonably likely to be used for subscriber-based services, we find that these channels would not be auctionable under Section 309(j)(2)(A). Therefore, the Commission would have the authority to award licenses from among mutually exclusive applications based on random selection procedures. Channels 161-165 will be available on a non-exclusive, *i.e.*, shared basis and, as such, will not be assigned through random selection procedures. Thus, we will grant all applications for these channels that comply with our Rules. After the effective date of the rules adopted in this proceeding, we will issue a Public Notice announcing the acceptance of applications for authorizations on the 10 public safety channels (Channels 161-165 and Channels 166-170) and the five EMRS channels.

(3) Federal Government Users

(a) *Proposal*

130. In the *Third Notice*, we indicated that our current rules permit Federal Government entities to be authorized on any of the 140 Phase I non-nationwide channels on a co-equal basis

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[226] *Public Safety NPRM*, 11 FCC Rcd 12460.

[227] *See* Section 90.723(d) of the Commission's Rules, 47 C.F.R. § 90.723(d). Also, as indicated in the *EMRS Report and Order*, to ensure that use of 220 MHz frequencies be compatible with existing regional and local emergency medical plans, we require that applications for EMRS channels be subject to approval by appropriate regional and local emergency planning authorities. If there are no regional and local plans in an applicant's area of operation, an applicant must make an affirmative statement that no such plans exist. *See EMRS Report and Order*, 8 FCC Rcd at 1459 (para. 29).

[228] Communications Act § 309(i), 47 U.S.C. § 309(i).

with non-Government users. We also observed that, because we received *no* applications from Federal Government entities for non-nationwide 220 MHz spectrum during Phase I, we anticipated that demand for 220 MHz spectrum by Government entities would be satisfactorily met through their future assignment on the 10 Public Safety and 5 EMRS channels.[229] In addition, we suggested that the assignment of these channels to Federal Government agencies would be of particular interest to those agencies responsible for public safety and emergency medical services because it would enable them to communicate with their counterparts at the State and local level. We also concluded that mutually exclusive applications for the channels available to both Government and non-Government entities should be assigned through a single unified lottery.[230]

(b) *Comments*

131. The National Telecommunications and Information Administration (NTIA), in its reply comments, relinquished Government rights to the 125 non-nationwide channels. NTIA indicated that in removing the Federal Government's co-primary status with respect to these channels, it ``seeks to increase potentially this spectrum's value at auction and to promote the availability of this radio spectrum for commercial services."[231]

(c) *Decision*

132. We are confident that future demand by Federal Government entities for 220 MHz spectrum will be satisfied by their authorization on the 10 Public Safety and 5 EMRS channels.[232] In addition, we believe that Federal Government use of these channels will be beneficial because it will enable Federal Government agencies involved in public safety and emergency medical services to communicate with State and local agencies with similar responsibilities in times of disasters or emergencies. We therefore conclude that Federal Government entities may only apply for the 10 Public Safety and five EMRS channels, and that any mutually exclusive applications for Channels 166-170 and the EMRS channels among Government and non-Government entities will be assigned through a single lottery.[233] Channels 161-165 will be available to both non-Government public safety eligibles and Government entities on a non-exclusive, *i.e.*, shared basis and therefore will not be assigned through random selection procedures. After the effective date of the rules adopted in this proceeding, we will issue a Public Notice announcing the acceptance of applications for authorizations on all public safety and EMRS channels by Government, as well as eligible non-Government entities.

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[229] *Third Notice*, 11 FCC Rcd at 225-26 (para. 74).

[230] *Id*. at 226 (para. 74). We have noted that, in the *220 MHz Report and Order*, we decided that mutually exclusive applications for 220 MHz channels involving Government and non-Government applicants would be resolved in a ``single, unified lottery . . . ." *220 MHz Report and Order*, 6 FCC Rcd at 2365 (para. 62).

[231] Letter from L. Irving, Assistant Secretary for Communications, U.S. Department of Commerce, to R. Hundt, Chairman, Federal Communications Commission (Apr. 15, 1996).

[232] According to Section 90.717 of the Commission's Rules, Federal Government entities may also be authorized on the two 5-channel *nationwide* Government assignments (Channels 111-115 and 116-120) that were made available in Phase I, and continue to be available in Phase II. 47 C.F.R. § 90.717.

[233] *See 220 MHz Report and Order*, 6 FCC Rcd at 2365 (para. 62).

(4) License Term

133. The license term for Phase I, non-nationwide 220 MHz licensees is five years. In our *CMRS Third Report and Order*, we decided that all Part 90 licensees reclassified as CMRS carriers would be granted a 10-year license term and be afforded renewal expectancy after their current license term expires if they met certain prescribed conditions.[234] In the *Third Notice* we proposed to grant 10-year authorizations to all non-nationwide Phase II licensees -- *i.e.*, EA and Regional licensees and Public Safety and EMRS licensees. We indicated that 10-year authorizations would encourage investment by EA and Regional licensees, and would help to minimize the administrative burden on Public Safety and EMRS licensees.[235] AMTA and Pagemart support our proposal.[236] Pagemart states that the use of 10-year license terms would ``bring 220 MHz licensees in line with existing CMRS licensees and minimize administrative burden on the Commission and . . . licensees."[237] We conclude that we should grant 10-year authorizations to all Phase II, non-nationwide licensees.

C. TECHNICAL AND OPERATIONAL RULES

1. Fixed Operations

a. *Proposal*

134. Our rules for the 220 MHz service permit fixed operations only on an ancillary basis to a licensee's primary land mobile operations.[238] We indicated in the *Third Notice* that we had imposed this restriction in the *220 MHz Report and Order* because we wanted to encourage manufacturers to invest in the development of narrowband land mobile technologies.[239] We tentatively concluded, however, that this restriction on the use of fixed communications in the 220 MHz band is no longer appropriate because, to compete effectively in the future mobile communications marketplace, 220 MHz licensees will have to be able to provide a wide array of communications services to the public.

135. We therefore proposed to modify our current rules, that only allow fixed operations on an ancillary basis to primary land mobile communications, in order to permit such operations on a primary basis for 220 MHz licensees. We proposed that the removal of this prohibition should apply to both nationwide and non-nationwide, non-Government and Government, Phase I and Phase II licensees, and to licensees offering service to subscribers as well as licensees using

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[234] *CMRS Third Report and Order*, 9 FCC Rcd at 8157 (para. 386).

[235] *Third Notice*, 11 FCC Rcd at 226 (para. 75).

[236] AMTA Comments at 16; Pagemart Comments at 4.

[237] Pagemart Comments at 4.

[238] Sections 90.731 and 90.733 of the Commission's Rules, 47 C.F.R. §§ 90.731, 90.733.

[239] *Third Notice*, 11 FCC Rcd at 226-27 (para. 76) (citing *220 MHz Report and Order*, 6 FCC Rcd at 2368 (para. 88)).

spectrum for internal communications.[240]

b. *Comments*

136. No commenters are opposed to allowing 220 MHz licensees to operate fixed stations on a primary basis. In embracing our proposal, AMTA indicates its support for the removal of ``certain technical and operational limitations that may no longer serve the public interest" and states that ``it is imperative that 220 MHz licensees have technical, operational and geographic flexibility to allow them to compete effectively."[241] E.F. Johnson notes that using its technology for fixed applications will ``increase its utility and offer more options for communications customers."[242] E.F. Johnson also indicates that its equipment ``can support fixed, as well as mobile transmissions."[243]

c. *Decision*

137. We recently decided to permit 220 MHz licensees classified as CMRS providers to offer fixed services. This decision was part of a broader decision to grant all CMRS licensees the flexibility to offer fixed services.[244] Those 220 MHz licensees not classified as CMRS providers -- *i.e.*, 220 MHz licensees not providing interconnected service or subscriber-based service for profit -- were not covered in that rulemaking. We now conclude that all 220 MHz nationwide and non-nationwide Phase I and Phase II, Government and non-Government licensees, including non-CMRS providers, should be permitted to operate fixed stations and provide fixed communications on a primary basis, *i.e.*, not ancillary to primary land mobile operations. As we stated in the *Third Notice*, we believe that lifting the restriction on primary fixed use in the 220 MHz service will allow 220 MHz licensees to compete more effectively in the wireless communications marketplace and also will broaden the array of services available to consumers. Furthermore, by permitting fixed as well as mobile operations in the 220 MHz service, we will also provide for additional applications of narrowband technology, which will serve our goal of continuing to promote the development and implementation of that technology.[245]

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[240] *Third Notice*, 11 FCC Rcd at 227 (para. 77).

[241] AMTA Comments at 12.

[242] E.F. Johnson Comments at 5.

[243] *Id*. *See also* Comtech Comments at 7; Metricom Comments at 3; Pagemart Comments at 4; Kelley Comments at 3; Overall Wireless Comments at 2.

[244] *See* Amendment of the Commission's Rules to Permit Flexible Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8965, 8967 (para. 2) (1996).

[245] As stated above, however, the Commission makes no warranties about the use of this spectrum for particular services. Applicants should be aware that a Commission auction represents an opportunity to become a Commission licensee in this service, subject to certain conditions and regulations. A Commission auction does not constitute an endorsement by the Commission of any particular services, technologies, or products, nor does a Commission license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture. See para. 19, *supra*.

138. Phase II licensees and Phase I nationwide licensees will be authorized to locate fixed stations transmitting on frequencies in the 220-221 MHz and 221-222 MHz bands anywhere within their area of operation -- subject to compliance with prescribed environmental, air safety and international regulations outlined in para. 80, *supra* -- so long as: (1) transmissions from fixed stations on frequencies in the 220-221 MHz band meet all relevant technical rules of Subpart T required for land mobile base stations (*e.g.*, Sections 90.723 and 90.729); (2) for EA and Regional licensees, the co-channel protection criteria prescribed in Section IV.C.6, *infra*, and the field strength limits prescribed in Section IV.C.7, *infra*, are met for all fixed stations transmitting on frequencies in the 220-221 MHz band; and (3) for Phase II licensees and Phase I nationwide licensees, transmissions on frequencies in the 221-222 MHz band do not exceed 50 watts ERP and are not from antennas that are more than 7 meters above ground, except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power from such transmissions is reduced below 50 watts ERP in accordance with the formula provided in Section IV.C.3.b, *infra*. This antenna height and power limitation is consistent with our decision in that section, where we require licensees operating *paging* base stations transmitting on 221-222 MHz frequencies to comply with these power and antenna height restrictions. Applying these restrictions to *all* fixed stations transmitting on 221-222 MHz frequencies is appropriate and necessary to ensure that transmissions from such stations do not cause adjacent channel interference.

139. Phase I, non-nationwide licensees are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base/mobile operations. We conclude that such licensees should be permitted to operate fixed stations, but that such stations, if transmitting on frequencies in the 220-221 MHz band, must: (1) be located only at the coordinates of the licensee's authorized base station; (2) meet all relevant technical rules of Subpart T required for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729); and (3) operate at the effective radiated power (ERP) and the antenna height-above-average-terrain (HAAT) prescribed in the licensee's land mobile base station authorization.[246] Consistent with our decision above with regard to the transmissions from Phase II and nationwide Phase I fixed stations operating on frequencies in the 221-222 MHz band, we will require that transmissions from fixed stations operated by Phase I, non-nationwide licensees on frequencies in the 221-222 MHz band not exceed 50 watts ERP, nor be from antennas that are more than 7 meters above ground, except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power from such transmissions is reduced below 50 watts ERP in accordance with the formula provided in Section IV.C.3.b, *infra*. Also, Phase I non-nationwide licensees will be required to comply with the prescribed environmental, air safety, and international regulations outlined in para. 80, *supra*, for fixed stations transmitting on frequencies in the 220-221 MHz and 221-222 MHz bands. Phase I, non-nationwide licensees will be permitted to begin primary fixed operations *only* after meeting the requirement that they construct their land mobile base station (for base/mobile operations) and place it in operation or commence service. Phase I, nationwide licensees will be permitted to begin primary fixed operations only after meeting their two-year benchmark to construct the initial

[246] Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT. Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP.

phase of their nationwide land mobile system, as prescribed in Section 90.725(a) of our Rules.[247]

2. Secondary, Fixed Operations

a. *Proposal*

140. In the *Third Notice* we proposed to allow 220 MHz licensees to obtain secondary authorizations to operate fixed facilities on a non-interference basis to licensees authorized to operate on a primary basis. The issue of secondary, fixed 220 MHz operations had been raised by Fairfield Industries, Inc. (Fairfield), which requested that individuals involved in geophysical telemetry be permitted to operate temporary, fixed 220 MHz facilities, on a secondary basis without the requirement that such operation be on an ancillary basis to the licensee's primary mobile operations.[248]

141. We found merit in Fairfield's request and believed that it would be in the public interest to allow the type of operation they proposed, but we concluded that rather than limiting secondary, fixed use of 220 MHz spectrum only to licensees employing temporary facilities for geophysical telemetry operations, even greater use of the spectrum could be realized by allowing any and all types of secondary, fixed operations.[249] In proposing to expand this permissible use of the spectrum, however, we also believed that certain additional restrictions on this type of operation were appropriate. We therefore proposed that secondary, fixed operation be limited to a maximum of two watts ERP for licensees operating within 60 kilometers of the center of any of the urban areas listed in Section 90.741 of the Commission's Rules,[250] and a maximum of five watts ERP for licensees operating beyond 60 kilometers of these areas. We also proposed to accept applications for authorization of secondary, fixed use of the 220 MHz band, without the requirement of frequency coordination, upon adoption of final rules in this proceeding. We requested comment on these proposals, including any suggested changes to the technical restrictions proposed, and any comment as to whether we should further restrict secondary, fixed use of the 220 MHz band to operations at strictly temporary locations, as provided for under Section 90.137 of the Commission's Rules.[251]

b. *Comments*

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[247] Section 90.725(a) of the Commission's Rules, 47 C.F.R. § 90.725(a).

[248] Fairfield Industries, Inc., Petition for Rulemaking, RM-8506 (filed June 8, 1994). *See* Public Notice, Report No. 2026 (released Aug. 16, 1994). No comments were filed with the Commission regarding the Fairfield petition. Our current rules allow 220 MHz licensees to provide operational-fixed facilities for ancillary, signalling and data transmission, subject to certain requirements, *e.g.*, that such ancillary operations be on a secondary, non-interference basis to the primary mobile operation of any other licensee. Section 90.731 of the Commission's Rules, 47 C.F.R. § 90.731.

[249] *Third Notice*, 11 FCC Rcd at 228 (para. 79).

[250] Section 90.741 of the Commission's Rules identifies the coordinates for the center of each of the listed areas. 47 C.F.R. § 90.741.

[251] *Third Notice*, 11 FCC Rcd at 228 (para. 79). Section 90.137 of the Commission's Rules provides, among other things, that temporary operation be limited to a period of not more than one year. 47 C.F.R. § 90.137.

142. A number of commenters oppose permitting use of the 220 MHz band for secondary, fixed operations. For example, Johnson ``questions the wisdom of secondary, fixed systems where there are primary operations," arguing that secondary, fixed transmitters ``can only serve to degrade the quality of service by the primary licensees on the service." Johnson is concerned that ``even the relatively low power of transmitters proposed for secondary use -- 2 and 5 watts -- are sufficient to cause interference to other licensees." Johnson therefore suggests that ``entities wishing to use secondary fixed operations enter into an agreement with the primary licensee for the use of the channels in the affected area. In that fashion, the primary licensees can be aware of the use of secondary, fixed units."[252] Comtech questions why an applicant ``would bid on spectrum knowing that there would be potential users, even secondary users on its channels" and believes that secondary users should ``arrange to employ spectrum through the auction winner in the area where operations are desired."[253] AMTA, in its reply comments, points out that ``while secondary operations are authorized only on a non-interference basis, location and resolution of interference problems can be costly and time-consuming, as well as administratively burdensome to the Commission." AMTA therefore agrees with Comtech and Johnson that ``entities wishing to offer secondary fixed services be required to enter into an agreement with any primary licensees potentially affected by secondary operations."[254] Fairfield, on the other hand, argues that there is ``virtually no risk of interference to primary users because oil and gas exploration occurs in remote, uninhabitable areas" and because ``transmitters operate at very low power levels of less than two watts and with duty cycles measured in seconds."[255] Fairfield also points out that ``geophysical telemetry operations are self-policing: seismic data collection relies on extremely sensitive equipment; hence, before any data can be collected, telemetry crews must monitor the spectrum carefully and avoid any channel on which they detect the slightest signal."[256] Fairfield, in its reply comments, contends that commenters' concerns of interference for systems using 220 MHz spectrum for seismic telemetry operations are therefore ``groundless," and that those who believe their rights would be infringed by the existence of secondary users in the band cannot ``claim a necessary right to use the spectrum free and clear of all other uses no matter how innocuous."[257]

c. *Decision*

143. We have decided in this Order to permit all Phase I and Phase II 220 MHz licensees to perform fixed operations on a co-primary basis with mobile operations. The issue at hand is whether to allow individuals to obtain *secondary* authorizations to operate fixed stations on a non-interference basis to both Phase I and Phase II licensees authorized on a primary basis. We agree with commenters that, under the rules we are adopting for Phase II licensing, which will

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[252] Johnson Comments at 6.

[253] Comtech Comments at 8.

[254] AMTA Reply at 4.

[255] Fairfield Comments at 2-3.

[256] Fairfield Reply at 2.

[257] *Id.* at 2-3.

require licensees to obtain authorizations through competitive bidding, it generally would not be appropriate to allow individuals to obtain unlimited secondary authorizations to operate fixed facilities, even on a non-interference basis.[258] According to Fairfield, however, the type of secondary use it proposes -- *i.e*., the use of the 220-222 MHz band for geophysical telemetry operations -- would occur only in remote, uninhabited areas and at relatively low power levels. We believe that operations of the type envisioned by Fairfield are not likely to present a risk of interference to primary 220 MHz stations. We therefore conclude that individuals using 220-222 MHz spectrum for geophysical telemetry operations should be permitted to obtain secondary authorizations to operate fixed facilities on a non-interference basis to primary licensees. We will, however, require secondary licensees to notify any co-channel primary 220 MHz licensees authorized in the area of their operation of the location of such secondary facilities. Specifically, we will require secondary licensees to provide this notification: (1) to any co-channel licensees operating on a single-station basis (*i.e.*, non-nationwide Phase I licensees) with an authorized base station, or fixed station transmitting on base station transmit frequencies, within 45 km of the secondary licensee's stations; (2) to any co-channel, Phase II EA or Regional licensee authorized to operate in the EA or Region in which the secondary licensee's stations are located; and (3) to any co-channel Phase I or Phase II nationwide licensees. Additionally, while are confident that there is little risk of interference to primary licensees from secondary licensees performing geophysical telemetry operations, we believe that it is appropriate to restrict such operations on the public safety/mutual aid channels, the EMRS channels, and the Federal Government channels. Operations on these channels will likely involve safety-of-life or emergency communications and we would not want to risk even the slightest possibility of interference to such communications. Secondary, fixed operations will therefore be permitted on all 220 MHz channels except Channels 111-120, 161-170, and 181-185.

144. In the *Third Notice* we asked for comment about restricting secondary, fixed use of the 220 MHz band to operations at strictly temporary locations, as permitted under Section 90.137 of the Commission's Rules. We believe that temporary authorizations would be well suited to the type of operations to be performed by licensees such as Fairfield. Therefore, we will require licensees obtaining secondary authorizations for fixed facilities for geophysical telemetry operations to obtain temporary authorizations under the provisions of Section 90.137 of the Commission's Rules.[259] Under this rule, licensees operating stations at the same location for more than one year will be required to obtain separate authorization for such stations. We will, however, modify Section 90.137(a)(3) to enable licensees to operate more than 180 days without the requirement that they obtain frequency coordination. We will begin to accept applications for such temporary authorizations on the effective date of the rules adopted in this proceeding.

145. Although we proposed to restrict the power transmitted by secondary licensees in order to limit the degree of interference they could cause, commenters raised concerns about the potential for interference from secondary, fixed stations operating at the power levels proposed (*e.g.*, two or five watts ERP). Fairfield indicated in its Petition for Rulemaking, however, that its system is capable of operating at lower power levels (*i.e.*, one watt ERP), and that its antennas

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[258] *See* Comtech Comments at 8; AMTA Reply at 4.

[259] Section 90.137 of the Commission's Rules provides, among other things, that licensees operating stations at the same location for more than one year must obtain separate authorization for such stations, and that applicants seeking authority to operate more than 180 days must submit evidence of frequency coordination. 47 C.F.R. §§ 90.137(a)(3), 90.137(b).

are generally located only six feet above ground. We will therefore limit the output power of stations operated by secondary licensees to a maximum of one watt ERP, and restrict antenna height to no more than two meters (6.6 feet) above ground.

146. Additionally, under Section 90.731 of our existing rules, Phase I licensees are permitted to construct and operate operational-fixed stations, *i.e.*, stations that are used only for a licensee's internal communications, to provide fixed signalling and data transmissions on an ancillary basis to its primary land mobile operations, and on a secondary, non-interference basis to the primary mobile operations of other licensees.[260] The operation of such facilities will now be permitted on a primary basis (*i.e.*, not ancillary to a licensee's primary land mobile operations and not secondary to the primary mobile operations of other licensees). Thus, Phase I licensees that intend to employ operational-fixed stations to provide fixed signalling and data transmissions must now comply with the technical and operational provisions described in paragraphs 138-139, *supra*, for general fixed operations rather than the technical and operational provisions currently contained in Section 90.731.

3. Paging Operations

a. *General Operations*

147. We have decided in this Order to permit Phase I and Phase II licensees to operate paging systems on a primary basis -- *i.e.*, not ancillary to primary land mobile operations.[261] Phase II licensees and Phase I nationwide licensees will thus be authorized to locate paging base stations anywhere within their area of operation -- subject to compliance with prescribed environmental, air safety and international regulations, as outlined in para. 80, *supra* -- so long as transmissions from base stations transmitting on frequencies in the 220-221 MHz band meet all relevant technical rules of Subpart T for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729), and for EA and Regional licensees, the co-channel protection criteria prescribed in Section IV.C.6, *infra*, and the field strength limits prescribed in Section IV.C.7, *infra*, are met for all such base stations.

148. Phase I non-nationwide licensees, which are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base and mobile operations, must locate paging base stations transmitting on 220-221 MHz frequencies *only* at the coordinates of their authorized land mobile base station. Furthermore, such licensees must operate their paging base stations transmitting on 220-221 MHz frequencies: (1) under all relevant technical rules of Subpart T for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729); and (2) at the effective radiated power (ERP) and the antenna height-above-average-terrain (HAAT) prescribed in their land mobile base station authorization.[262] Phase I, non-nationwide licensees will be permitted to begin primary paging

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[260] *See* Section 90.731 of the Commission's Rules. 47 C.F.R. § 90.731.

[261] See para. 95, *supra*.

[262] Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT. Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP.

operations *only* after meeting the requirement that they construct their land mobile base station (for base and mobile operation) and place it in operation, or commence service. Phase I, nationwide licensees will be permitted to begin primary paging operations only after meeting their two-year benchmark to construct the initial phase of their nationwide land mobile system, as prescribed in Section 90.725(a) of the Commission's Rules.[263]

b. *Two-Way Operations*

149. In the *Third Notice*, we proposed to permit 220 MHz licensees to operate paging systems on a primary basis, but did not discuss whether 220 MHz licensees could use their mobile channels to transmit return messages from pagers. Various commenters, however, addressed this issue. Pronet, for example, asks that we allow two-way paging because restricting licensees to one-way paging operations would force half of all 220 MHz spectrum used for paging operations to ``lie dormant."[264] We agree that to restrict 220 MHz licensees to one-way paging systems would not be an efficient use of the spectrum. For this reason, and because we believe that it is appropriate to provide 220 MHz licensees operating paging systems with the flexibility to employ the type of paging systems that best meets the needs of their customers, we will permit both one-way and two-way paging operations.

150. SEA suggests that, if we permit two-way paging, we should continue to limit maximum power on the mobile frequencies to 50 watts ERP, and that we should not allow licensees to construct base stations on the mobile frequencies at heights greater than 7 meters above ground. SEA believes that operation of base stations above this height could cause interference to adjacent channel licensees, and that, in general, ``[t]o permit paging on the mobile transmit frequencies would result in serious interference problems for Phase I and Phase II half-duplex systems."[265] Metricom, in its reply comments, believes that SEA's proposed limit on mobile station power and base antenna height should not be applied to nationwide 220 MHz systems.[266]

151. We agree with SEA that restrictions on the use of the mobile channels by licensees operating two-way paging systems is appropriate. When we adopted the 50-watt effective radiated power (ERP) limitation for mobile and portable units operating in the 220 MHz band, we did not envision the use of the mobile channels for ``base stations" situated at high elevations. To permit such operations without restriction could, as SEA suggests, result in interference to nearby, adjacent channel 220 MHz licensees. We will therefore limit mobile and portable ERP to 50 watts for licensees operating two-way paging systems, and will modify Section 90.729(b) of our rules to require licensees constructing base stations on the mobile channels, *i.e.*, channels in the 221-222 MHz band, to operate such stations at heights no greater than 7 meters above ground -- except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power of such transmissions is reduced below 50 watts ERP by

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[263] Section 90.725(a) of the Commission's Rules, 47 C.F.R. § 90.725(a).

[264] Pronet Reply at 3-4.

[265] SEA Comments at 18.

[266] Metricom Reply at 5-6.

20 $\log_{10}$(h/7) dB, where h is the height of the antenna above ground, in meters.[267] This antenna height and power limitation is necessary to ensure that transmissions from paging base stations operating in the 221-222 MHz band do not cause adjacent channel interference. Metricom suggests that such a limitation only apply to non-nationwide licensees. We conclude, however, that the adjacent channel interference that could result from licensees operating at high elevations could be caused by nationwide as well as non-nationwide licensees. We shall therefore apply the height limitation to all 220 MHz licensees. Finally, we will require Phase I non-nationwide licensees to comply with the prescribed environmental, air safety, and international regulations outlined in para. 80, *supra*. for paging base stations transmitting on frequencies in the 221-222 MHz and 220-221 MHz bands.

4. Other Technical Considerations

152. In developing our proposed band plan, we noted in the *Third Notice* that, due to circumstances unique to the 220-222 MHz band, we currently require licensees operating base stations in the upper 40 channel assignments (*i.e*., Channels 161-200) to reduce power when located within certain distances of base station receivers of licensees operating on the adjoining Channels 1-40, and we also limit the base station transmitter power for stations authorized on Channels 196-200 to 2 watts.[268] We proposed that Phase II EA and Regional licensees on these channel blocks coordinate among themselves to locate their base stations to avoid interference, and proposed to allow licensees operating on Channels 196-200 to operate at power levels greater than 2 watts if such licensees obtain the concurrence of all Phase I and Phase II licensees operating in their area.[269] There were no comments on this issue.

153. We will require Phase II licensees authorized on Channels 161-200 and Channels 1-40 to coordinate among themselves to locate their base stations, and fixed stations operating on base station frequencies, to avoid interference and to cooperate to resolve any interference problems that may arise.[270] We will also require Phase II licensees authorized on Channels 161-200 to comply with the power limitations prescribed in the Table in Section 90.723(d) of the Commission's Rules, with respect to any authorized base stations, or fixed stations operating on base station transmit frequencies, of Phase I licensees operating on Channels 1-40. We will also require the six Regional licensees operating on Assignment J (Channels 186-200) to operate their authorized base stations or fixed stations transmitting on base station Channels 196-200 at power levels no greater than 2 watts ERP and at antenna heights no greater than six meters (20 feet). Licensees, however, may operate at power levels greater than 2 watts ERP or at antenna heights greater than six meters if: (1) they obtain the concurrence of all Phase I and Phase II licensees

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[267] Using this power reduction formula, licensees operating at antenna heights greater that 7 meters above ground will provide a signal equivalent to that produced by a 50 watt ERP transmission *at* 7 meters above ground. This formula was utilized in our Report and Order for LMS systems and adoption of the formula herein is consistent with its use in that proceeding. *See* Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, Report and Order, 10 FCC Rcd 4695, 4715-16 (para. 36) (1995).

[268] *Third Notice*, 11 FCC Rcd at 223 (para. 67).

[269] *Id*. at 223-24 (para. 68).

[270] *See, e.g.*, Section 90.173(b) of the Commission's Rules, 47 C.F.R. § 90.173(b).

operating authorized base or fixed stations on Channels 1-40 within 6 km of their authorized base or fixed stations; and (2) their authorized base or fixed stations are not located in the United States/Mexico or United States/Canada border areas.[271]

5. Construction Requirements

a. *Nationwide Licensees*

(1) Proposal

154. In the *Third Notice* we observed that, in adopting our original rules for the 220 MHz service, we adopted construction requirements for nationwide licensees that were a reflection of the traditional design of private land mobile radio systems (*i.e.*, the construction and operation of single, high powered base stations providing signal coverage over an extended area). Specifically, we required nationwide 220 MHz licensees to construct base stations in at least 70 different geographic areas over an extended period of time.[272] We also noted, however, that, since the adoption of those rules in 1991, we have implemented other communications services, such as broadband and narrowband PCS, where other types of system design are used. In these services, we adopted construction requirements for authorizations based not on the construction of individual base stations, but on requiring licensees to provide a minimum ``coverage" within their authorized area of operation.[273]

155. In light of the operational flexibility that we proposed to provide for 220 MHz licensees in the *Third Notice*, we decided to propose the adoption of the same type of broad coverage requirements for the Phase II nationwide 220 MHz service as we adopted for these other wireless services. Specifically, we proposed that Phase II nationwide 220 MHz licensees be required to construct base stations that provide coverage to a composite area of 750,000 square kilometers or serve 37.5 percent of the United States population within five years of initial license grant, and to provide coverage to 1,500,000 square kilometers or 75 percent of the population within 10 years of grant.[274] Our proposal was based on the construction requirement for nationwide narrowband PCS licensees.[275]

156. Because we recognized that certain types of service offerings we proposed to allow for 220 MHz licensees -- *e.g.*, fixed, point-to-point operations -- might not lend themselves to

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[271] As indicated in Section 90.715(c) of the Commission's Rules, 47 C.F.R. § 90.715(c), the U.S./Mexico border area for U.S. licensees is 120 km (74.6 miles) from the U.S./Mexico border. The U.S./Canada border area for U.S. licensees has not yet been determined.

[272] Section 90.725 of the Commission's Rules, 47 C.F.R. § 90.725. The rules provide that licensees granted commercial nationwide authorizations must meet construction benchmarks two, four, six, and ten years after initial license grant, and licensees granted non-commercial nationwide authorizations must construct and operate base stations in a minimum of 70 markets within five years of initial license grant.

[273] *Third Notice*, 11 FCC Rcd at 232 (para. 88).

[274] *Id*. at 232 (para. 89).

[275] Section 24.103(a) of the Commission's Rules, 47 C.F.R. § 24.103(a).

compliance with the strict construction requirement we proposed,[276] we proposed to permit nationwide 220 MHz licensees to meet their construction requirement alternatively by submitting a showing demonstrating the provision of appropriate levels of ``substantial service"[277] to the public at the prescribed five-year and 10-year construction benchmarks.[278] In addition, we asked commenters planning to construct systems that would lend themselves to a demonstration of substantial service, to indicate the types of ``build-outs" that would be appropriate for their particular systems and the period of time that should be required to achieve such build-outs. Finally, consistent with our rules for the PCS services,[279] we proposed that licensees be required to submit maps and other supporting documents to demonstrate compliance with the five-year and 10-year benchmarks, and we proposed that failure on the part of a nationwide licensee to meet either its five-year or 10-year construction requirement would result in forfeiture of its nationwide authorization.

(2) Comments

157. Commenting on our proposal to require licensees to meet their construction benchmarks to retain their authorizations, E.F. Johnson states that ``if licensees fail to meet the construction requirements, licenses should be revoked and issued to new entities that will make productive use of the spectrum."[280] Comtech seeks assurance that the existing construction requirements will remain in effect for all Phase I licensees.[281] Metricom addresses the question of how licensees operating fixed systems would meet the ``substantial service to the public" standard. Metricom suggests that we adopt separate construction standards for such licensees, and proposes a standard that ``considers the potential areas and population capable of being served by a fixed system, based on the equipment placed into service by the licensee."[282] Metricom also recommends that we ``freely consider waivers of any construction benchmarks [we] may establish for fixed systems in those instances where the applicant can reasonably justify that a waiver would

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[276] Fixed, point-to-point systems, for example, provide service in a linear manner, and thus a coverage ``area" calculation is not applicable.

[277] A ``substantial service" construction requirement is used for licensees in the broadband PCS and 900 MHz SMR services. *See* 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 to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Implementation of Section 309(j) of the Communications Act--Competitive Bidding, PP Docket No. 93-253, 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) *(900 MHz Second Report and Order*). For the broadband PCS rules, see Section 24.203(b) of the Commission's Rules, 47 C.F.R. § 24.203(b).

[278] *Third Notice*, 11 FCC Rcd at 233 (para. 90).

[279] Sections 24.103(f) and (h) and 24.203(b) and (c) of the Commission's Rules, 47 C.F.R. §§ 24.103(f), (h); 24.203(b), (c).

[280] E.F. Johnson Comments at 7.

[281] Comtech Comments at 12.

[282] Metricom Comments at 6 (emphasis omitted).

be in the public interest."[283]

(3) Decision

158. We will require Phase II licensees implementing nationwide land mobile or paging systems to meet our proposed construction requirement, which is to construct base stations that provide coverage to a composite area of at least 750,000 square kilometers or serve at least 37.5 percent of the United States population within five years of initial license grant, and to provide coverage to at least 1,500,000 square kilometers or at least 75 percent of the population within 10 years of grant. We will allow Phase II licensees implementing fixed operations as part of their nationwide system to meet a ``substantial service" construction requirement as an alternative to meeting the five-year or 10-year construction requirements. We shall not adopt a particular measure of ``substantial service" for such licensees, as Metricom suggests, but will consider such showings on a case-by-case basis. Licensees, in meeting either the standard construction requirement as described *supra*, or the substantial service requirement, will have to submit maps and other supporting documents to demonstrate compliance with their five-year and 10-year benchmarks. Failure on the part of a licensee to meet either its five-year or 10-year construction requirement will result in automatic cancellation of its nationwide authorization. Thus, a nationwide licensee failing to meet its construction requirement will not have its authorization converted to individual site-by-site authorizations for already constructed stations. In addition, we will not require nationwide licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations. This decision is consistent with our decision in paragraph 165, *infra*, to not require EA and Regional licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

159. As noted above, Phase I, nationwide licensees will be permitted to begin operating primary, fixed or paging operations *only* after meeting their two-year benchmark to construct the initial phase of their nationwide land mobile system, as prescribed in Section 90.725(a)(1) of the Commission's Rules.[284] In addition, licensees who wish to begin primary fixed or paging operations instead of or in addition to their land mobile operations after meeting their two-year benchmark will be required to meet the following requirements before beginning such primary fixed or paging operations:

- They must provide a schedule for the construction of the primary fixed or paging operations they intend to deploy instead of or in addition to their land mobile operations during the remainder of their initial 10-year licensing period.[285]

- They must certify that the financial showings and all other certifications they had provided in demonstrating their ability to construct and operate their nationwide land mobile system, as prescribed in the relevant provisions of Section 90.713 relating to entry criteria, remain applicable to any planned, primary fixed or paging operations they intend to deploy instead of

[283] *Id*. at 7.

[284] 47 C.F.R. § 90.725(a)(1).

[285] *See* Section 90.713(a)(3) of the Commission's Rules, 47 C.F.R. § 90.713(a)(3).

or in addition to their land mobile operations.

■ In lieu of such a certification, they must revise their financial showings and provide all other relevant certifications, as required under Section 90.713, to demonstrate their ability to construct and operate a nationwide system consisting of primary fixed or paging operations instead of or in addition to their land mobile operations.

All provisions of Section 90.725 relevant to nationwide, commercial licensees will apply to Phase I nationwide licensees operating primary paging systems instead of or in addition to their primary land mobile system. For example, licensees will be required to meet all subsequent construction benchmarks of Section 90.725(a) (*e.g.*, constructing base stations and placing them in operation in 70 geographic areas over a 10-year period in accordance with Section 90.725(a)(4)),[286] licensees will be required to provide system progress reports in accordance with Sections 90.725(d) and (e), and licensees will be subject to the conditions of Sections 90.725(b), (c), and (g). All provisions of Section 90.725 relevant to nationwide, commercial licensees will similarly apply to Phase I nationwide licensees operating primary fixed stations instead of or in addition to their primary land mobile or paging base stations, except that rather than being required to construct base stations (for base and mobile operation) and place them in operation to meet the four-, six- and 10-year construction benchmarks of Section 90.725(a), a licensee operating fixed stations instead of land mobile or paging base stations in any of the geographic areas identified in Section 90.725(a) will be allowed to demonstrate how it is providing substantial service to the public, as defined *supra* for Phase II licensees, in those geographic areas at the prescribed benchmarks.

b. *EA and Regional Licensees*

(1) Proposal

160. We proposed a similar construction requirement for EA and Regional licensees as we proposed for nationwide, Phase II licensees. We patterned this construction requirement after our construction requirement for 900 MHz SMR (MTA) licensees, and thus proposed that EA and Regional licensees be required to construct base stations to provide coverage to one-third of the population of their EA or Region within five years of initial authorization and two-thirds of the population of their EA or Region within 10 years. In the *Third Notice*, we proposed construction requirements for EA and Regional licensees in the 220 MHz service that paralleled the three- and five-year construction requirements for the 900 MHz SMR service, but proposed that Phase II 220 MHz licensees meet these requirements at five- and 10-year intervals. We also proposed to allow EA and Regional licensees, as an alternative to meeting this standard construction requirements, to submit showings demonstrating the provision of appropriate levels of substantial service to the public at their interim and final construction benchmarks.[287]

161. In proposing these coverage requirements, we acknowledged that Phase II licensees will have to provide co-channel protection to incumbent licensees and that this could inhibit their ability to meet the requirements. We tentatively concluded, however, that Phase II 220 MHz licensees should have to meet their construction requirements, even if some or all of their channels

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[286] *See also* Section 90.713(a)(1) of the Commission's Rules, 47 C.F.R. § 90.713(a)(1).

[287] *Third Notice*, 11 FCC Rcd at 235 (para. 94).

are authorized to co-channel Phase I licensees in their area. Finally, consistent with our proposals for the nationwide 220 MHz service, we proposed that EA and Regional licensees be required to submit maps and other supporting documents to demonstrate compliance with their interim and final construction benchmarks, and that failure on the part of a licensee to meet either its interim or final construction requirement will result in forfeiture of its authorization.[288]

(2) Comments

162. AMTA supports our proposed construction requirements for EA and Regional licensees ``given the geographic size of these authorizations in comparison with other wireless services, and the fact that these frequencies likely will be `encumbered' by Phase I licensees in major markets."[289] Comtech notes that under our current rules, licensees must construct all of their channels at their authorized base station location to meet their construction requirement. Comtech is concerned that, because Phase II licenses must protect multiple Phase I licensees under our contiguous channel assignment configuration, ``Phase II licensees will likely be unable to construct all of their channels at a single site."[290] It therefore suggests that Phase II licensees be permitted to ``construct any subset of their authorized channels in their licensed service area, so as to provide substantial service [in accordance with Section 22.940] to the required population or coverage area."[291]

(3) Decision

163. We will require EA and Regional licensees implementing land mobile or paging systems to construct base stations to provide coverage to at least one-third of the population of their EA or Region within five years of initial authorization and at least two-thirds of the population of their EA or Region within 10 years of initial authorization. We will allow certain EA and Regional licensees to meet the ``substantial service" construction requirement, as described *supra* for nationwide licensees, as an alternative to meeting the standard construction requirement. The option of providing a showing of substantial service will be available to those EA and Regional licensees that are offering fixed services as part of their EA or Regional system *and* to those licensees who, because of the existence of one or more incumbent co-channel licensees in their EA or Region, can only provide service to populations *outside* of the areas served by these incumbents. As we indicated in our *900 MHz SMR Third Order* with regard to our use of a coverage requirement for 900 MHz MTA licensees, our standard construction requirement for EA and Regional licensees is not intended to act as a deterrent to individuals seeking EA or Regional licenses. By providing the ``substantial service" option, we afford sufficient flexibility to enable EA and Regional licensees who are providing new, *e.g.*, fixed services -- or are capable of only serving what are now unserved populations -- to satisfy a

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[288] *Id*. at 236 (para. 96).

[289] AMTA Comments at 16.

[290] Comtech Comments at 6.

[291] *Id*. at 7.

construction requirement.[292] We also clarify that, as we indicated in the *900 MHz SMR Third Order on Reconsideration* with respect to 900 MHz MTA licensees, EA and Regional 220 MHz licensees will not be permitted to count the resale of the services of other providers in their EA or Region, *e.g.*, incumbent 220 MHz licensees, to meet the construction requirement.[293] Licensees will be required to demonstrate the provision of appropriate levels of substantial service to the public at their five- and 10-year construction benchmarks. We will not adopt a particular measure of ``substantial service" for these licensees, but will consider their showings on a case-by-case basis.

164. We also require licensees, in meeting either the standard construction requirement or the substantial service requirement, to submit maps and other supporting documents to demonstrate compliance with the benchmarks. Failure on the part of a licensee to meet its construction requirement at either of its benchmarks will result in automatic cancellation of its authorization. Thus, an EA or Regional licensee failing to meet its construction requirement will lose its authorization; it will not be converted to individual, site-by-site authorizations for already constructed stations. As we have previously noted, Phase I, non-nationwide licensees will be permitted to begin operating primary, fixed or paging operations *only* after meeting the requirement that they construct their land mobile base station (for base and mobile operations) and place it in operation or commence service.

165. Finally, Comtech is concerned that Phase II licensees will have difficulty meeting our construction requirements due to the fact that under our proposed band plan, which was composed entirely of contiguous channel assignments, they would have been required to protect multiple Phase I licensees. While our adopted band plan, as we have discussed, reduces the number of Phase I licensees a Phase II licensee must protect, we agree with Comtech that Phase II licensees should not be required, in implementing their systems, to construct and place in operation all of their authorized channels at all base station locations. Such a requirement would not provide EA and Regional licensees with flexibility to construct their base stations in a manner that best serves their technical and operational requirements; the requirement thus could have an adverse effect on the ability of these licensees to meet the needs of their customers. We will therefore not require EA and Regional licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

c. *Licensees on Public Safety and EMRS Channels*

166. Because we tentatively concluded in the *Third Notice* that the Public Safety and EMRS channels should continue to be authorized on a single-station basis, we proposed to continue to require Phase II licensees operating on these channels to meet the existing 12-month

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[292] *See* 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, PR Docket No. 89-553, and Implementation of Sections 3(n) and 322 of the Communications Act, Third Order on Reconsideration, GN Docket No. 93-252, 11 FCC Rcd 1170 (para. 2) (1995) (*900 MHz SMR Third Order on Reconsideration*).

[293] *Id.* at paras. 3-4.

construction requirement for non-nationwide 220 MHz licensees.[294] There are no comments on this issue, and we adopt our proposal to require Phase II licensees operating on the Public Safety and EMRS channels to construct their authorized base station and place it in operation within 12 months of initial authorization. Failure to meet this requirement will result in automatic cancellation of the licensee's authorization.

d. *General Construction Requirements Policy*

167. In the *Third Notice*, we sought comment on our specific construction requirement proposals for 220 MHz licensees. We did not, however, directly request comment on whether construction requirements of any type were in fact necessary and appropriate, and no party argues here that such requirements are unnecessary or counter-productive. Based on the record in this instant proceeding, and in light of the policy considerations we have expressed in our *Wireless Communications Service Report and Order*[295] we have concluded that it is appropriate at this time to establish construction requirements for the 220 MHz service.

168. We note, however, that in the *Wireless Communications Service Notice* we had asked for comment on whether any construction requirements are required or appropriate for that new wireless service.[296] We stated there that while Section 309(j) of the Communications Act requires ``safeguards" and ``performance requirements," with the aim of preventing uneconomic spectrum warehousing and promoting service to rural areas, we have never concluded that traditional construction requirements are the only way to satisfy the requirements of Section 309(j). We stated further that construction requirements in some cases may be unnecessary, ineffective, and potentially harmful, and that there may be better approaches to satisfying the objectives of Section 309(j). In the *Wireless Communications Service Report and Order*, we adopted a requirement that a licensee provide substantial service to its area within 10 years of initial authorization. In light of our decision in the *Wireless Communications Service Report and Order* to adopt liberal construction requirements,[297] we may choose to reassess the nature of construction requirements in the 220 MHz band at some time in the future.

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[294] *Third Notice*, 11 FCC Rcd at 236 (para. 97).

[295] *See* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, GN Docket No. 96-228, Report and Order, FCC 97-50, (released Feb. 19, 1997) (*Wireless Communications Service Report and Order*). *See also* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, GN Docket No. 96-228, Notice of Proposed Rule Making, FCC 96-441 (released Nov. 12, 1996) (*Wireless Communications Service Notice*).

[296] *See Wireless Communications Service Notice* at paras. 56-61.

[297] *See Wireless Communications Service Report and Order* at para. 112.

6. Protection of Phase I Licensees

a. *Proposal*

169. In the *Third Notice* we considered whether to establish a minimum co-channel separation between Phase I and Phase II stations to ensure that EA and Regional licensees, in constructing their facilities, do not cause interference to co-channel Phase I licensees. Specifically, we proposed that EA and Regional licensees ordinarily not be permitted to construct their stations less than 120 kilometers from constructed and operating Phase I, co-channel stations.[298] In order to accommodate EA and Regional licensees that may choose to employ low-power stations, we indicated that we would allow, as currently provided in the rules with regard to Phase I licensees, Phase II licensees to operate less than 120 kilometers from co-channel stations if they provide the Commission with a technical analysis demonstrating at least 10 dB protection to the 38 dBuV/m contour[299] of the existing licensee's station.[300] We also proposed that a Phase II licensee be allowed to construct and operate stations less than 120 kilometers from an existing co-channel station or with less than 10 dB protection to an existing co-channel station's 38 dBuV/m contour if the Phase II licensee obtains the consent of the affected co-channel licensee.[301]

b. *Comments*

170. Those commenters expressing views on this subject are opposed to our proposal. For example, E.F. Johnson contends that ``it is apparent, without further study, that the Commission's presumptions concerning co-channel protection [are] inaccurate. 220-222 MHz systems propagate much further than the Commission anticipated. While the Commission plainly cannot change the 120 km separation requirement between Phase I licensees, it should modify the co-channel separation standard for Phase II licensees."[302] E.F. Johnson recommends that Phase II licensees be required to protect a Phase I licensee's 28 dBu contour. E.F. Johnson argues that ``[t]his coverage area more accurately signifies where a reliable signal may be received by a

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[298] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

[299] *Id.* We proposed that this 10 dB of protection must be demonstrated by showing that the predicted signal from an EA or Regional licensee's station(s) does not exceed 28 dBuV/m at the predicted 38 dBuV/m contour of the Phase I licensee's station(s). The predicted signal from the EA or Regional licensee's station would be calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10a), with a 9 dB correction factor for antenna height differential. The predicted signal(s) from the Phase I licensee's station would be calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10), with a 9 dB correction factor for antenna height differential. We also proposed to modify Section 90.723(f) to identify use of these field strength charts as the appropriate method for calculating the prescribed 10 dB protection a Phase I licensee must provide to another co-channel Phase I licensee.

[300] *Third Notice*, 11 FCC Rcd at 237 (para. 99).

[301] *Id.*

[302] E.F. Johnson Comments at 7.

mobile unit affiliated with a licensee."[303]

171. AMTA advocates that a Phase II licensee not ``exceed 28 dBu at the Phase I licensee's 28 dBu contour."[304] Incom, in its comments, indicates that its customers ``are routinely receiving reliable service at the 32 dBuV/m contour . . . ," and concludes that ``the Commission must modify [its rules] to provide for 10 dB protection to the 32 dBuV/m contour, as opposed to the 38 dBuV/m contour."[305] Incom states that in the cellular radio service, we initially adopted rules limiting a cellular station's ``protected service area" to a 39 dBu contour, but later ``adopted a 32 dBu standard,"[306] and that we originally established a 15-mile protected service area in the MMDS and ITFS services, but then increased it to 35 miles.[307] Incom argues that we should similarly acknowledge that we were equally incorrect in originally establishing the 38 dBu service contour for the 220 MHz service -- and that we should now recognize our error and change the 220 MHz service contour to 32 dBu.[308] Finally, Incom, in its reply comments, states that the 1993 Budget Act ``obligates the Commission to make rules that eliminate inconsistencies between similar mobile services."[309] Incom argues that ``[o]ne conceivable reason for this dissimilar treatment is that the cellular industry is a more powerful lobbying group than the 220-222 MHz industry. Another conceivable reason is that the Commission is attempting to create value for auction bidders by selling off areas already receiving reliable service from incumbents, which is an abdication of the Commission's spectrum management responsibility and a tremendous disservice

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[303] *Id*. E.F. Johnson, in its Comments, indicated that its recommendation is ``tentative," pending the outcome of what it understood to be AMTA's subsequent evaluation of ``the protection needed between co-channel 220 MHz licensees."

[304] AMTA Reply at 2-3. *See also* SMR Reply at 8; U.S. Mobilcomm Reply at 1; Securicor Reply at 5, all endorsing AMTA's position, and Comtech Comments at 14-15 (recommending that ``the Commission insure that Phase II licensees do not exceed 28 dBuV/m at the Phase I licensee's 28 dBuV/m contour.").

[305] Incom Comments at 5. In its Reply Comments at 2, Incom supports AMTA's position.

[306] *Id*. at 4-5. We have always considered a cellular licensee's ``protected service area" to be its Cellular Geographic Service Area (CGSA). Prior to 1992, the CGSA was an arbitrary line drawn by a cellular applicant on a map, and had no connection to any particular field strength. The 39 dBuV/m contour, prior to 1992, was used to determine if a licensee was providing ``reliable service" over at least 75% of the area or population within its arbitrarily drawn CGSA and to evaluate *de minimis* extensions. Since the adoption of the Second Report and Order in CC Docket No. 90-6, a formula-based calculation of the ``service area boundary" has been used to determine the licensee's CGSA. The service area boundary, as calculated using the formula, closely approximates the results one would obtain using the Carey propagation curves to predict the distance of the median 32 dBu contour. Thus, there is no direct connection between our use of the 39 dBuV/m contour prior to 1992, and the determination of cellular ``protected service areas," as Incom appears to suggest. *See* Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, Second Report and Order, 7 FCC Rcd 2449 (1992) (*Cellular Unserved Second Report and Order*).

[307] Incom Comments at 5.

[308] *See id*. at 4-5, 7-8.

[309] Incom Reply Comments at 3.

to the public. Neither of these reasons would withstand judicial review."[310]

172. Roamer One asserts that the Commission should provide 10 dB protection to a Phase I licensee's 28 dBu contour, arguing that ``[its] experience -- as is that of the entire 220-222 MHz industry -- is that the typical 220-222 MHz system provides reliable service for roughly 40 miles . . . ."[311] Finally, Kelley believes that by ``under estimat[ing] [sic] the excellent propagation characteristics of narrowband single sideband signals at 220 MHz, [the Commission's proposal] will set the stage for a cacophony of interfering signals near the weak signal but still useable border area of every co-channel Phase I and Phase II station, seriously degrading overall service to the public."[312] Therefore, Kelley recommends that we adopt an easy to use distance-based protection criteria, and suggests that a 130 km standard be employed, with an additional correction factor of 5 or 10 km for mountaintop stations.[313]

c. *Decision*

173. We continue to believe that EA and Regional licensees should be required to locate their base stations at least 120 km from the base stations of co-channel Phase I licensees,[314] except that such licensees should be permitted to locate their base stations less than 120 km from the base stations of co-channel Phase I licensees if they provide 10 dB protection to the predicted 38 dBuV/m service contour of the base stations of co-channel Phase I licensees. Phase II licensees may meet this requirement, as currently provided in our rules,[315] by submitting a technical analysis demonstrating that the predicted 28 dBuV/m interfering contour of their base station does not overlap the predicted 38 dBuV/m service contour of the Phase I licensee's base station.[316] Such submissions shall be considered on a case-by-case basis. Also, as proposed, a Phase II licensee may construct and operate a base station less than 120 kilometers from an existing co-channel base station or with less than 10 dB protection to an existing co-channel station's predicted 38 dBuV/m contour if the Phase II licensee obtains the consent of the affected co-channel licensee.

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[310] *Id.* at 3 n.3.

[311] Roamer Comments at 5, 6 (emphasis omitted).

[312] Kelley Comments at 5.

[313] *Id.*

[314] The term ``base stations" in this Section and the following Section (addressing the issue of field strength limits at EA and Regional borders), refers to land mobile base stations, paging base stations, or fixed stations operating on the 220 MHz base station frequencies (*i.e.*, frequencies in the 220-221 MHz band).

[315] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

[316] The predicted signal from the Phase II licensee's station will be calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10a), with a 9 dB correction factor for antenna height differential. The predicted signal from the Phase I licensee's station would be calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10), with a 9 dB correction factor for antenna height differential. As proposed in the *Third Notice*, we will modify Section 90.723(f) of the Commission's Rules to identify use of these field strength charts as the appropriate method for calculating the prescribed 10 dB protection a Phase I licensee must provide to another co-channel Phase I licensee. *Third Notice*, 11 FCC Rcd at 237 n.151 (para. 99).

174. The predicted 38 dBuV/m contour of the Phase I licensees will be calculated based on the licensee's authorized effective radiated power (ERP) and antenna height-above-average-terrain (HAAT) -- not on the maximum allowable ERP and HAAT provided in our rules for the 220-222 MHz band. Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT.[317] Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP. By operating at such lower power levels, licensees shall receive less protection than they would have received by operating at their initially authorized ERP. We reach this decision because our ultimate goal is to provide 220 MHz service to the public. If we protect Phase I licensees beyond the predicted 38 dBu contour associated with their initially authorized height and power, then these licensees would be protected beyond the area that they had sought to serve. In addition, we do not think it would be appropriate to allow Phase I licensees to expand their service areas by increasing their power or antenna height without allowing the filing of mutually exclusive applications. Because Phase II licensees will have sought authorization for a large geographic area, we believe that it is appropriate to allow them to serve any portion of their licensed geographic area, except for portions of the area already being served by co-channel Phase I licensees. We also believe that it is likely that Phase II licensees will want to provide service to those areas that would have been protected if we had assumed herein that Phase I licensees are operating at maximum allowable height and power.

175. We reject the arguments of commenters who believe that we should provide greater protection to Phase I licensees' base stations. Commenters suggest that we protect a Phase I licensee's 32 dBu contour or 28 dBu contour because, they claim, ``reliable'' 220 MHz signals are being received by mobiles and ``reliable service'' is being provided at distances from base stations farther than the 38 dBu contour. We decline to adopt the suggestions made by commenters because their arguments are not consistent with the methodology we have used to provide for co-channel protection for incumbent licensees in other auctionable land mobile services (*e.g.*, 800 MHz and 900 MHz SMR). Commenters have failed to explain why we should adopt a different methodology for determining co-channel protection (*e.g.*, affording protection to a contour at which commenters claim ``reliable'' signals are being received). Therefore, as we explain in the following paragraphs, we continue to believe that our methodology for determining Phase I co-channel protection was appropriate and should also be used to determine the protection that Phase II licensees must afford to Phase I licensees.

176. In the 800 MHz and 900 MHz services, as well as the 220 MHz service, our rules provide a certain degree of protection to a particular, ``desired'' signal contour of a base station, under the assumption that an ``undesired'' interfering signal from a co-channel base station will be present. For example, when we first determined the appropriate interference protection criteria for land mobile stations operating in the 800/900 MHz bands, we decided that our goal in establishing parameters for 900 MHz stations was to provide ``a high quality signal to about 50 percent of the locations, 50 percent of the time, within the service area of the stations.''[318] We

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[317] In the *220 MHz Second Report and Order*, we did permit Phase I licensees to seek modification of their authorizations to *relocate* their base stations. *See 220 MHz Second Report and Order*, 11 FCC Rcd 3668.

[318] *See* An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operation in Land Mobile Services Between 806 and 960 MHz, Docket No. 18262, Second Report and Order, 46 FCC 2d 752, 774 n.26 (para. 76)

concluded that to accomplish this objective, ``the average desired signal should be 40 dBu at the edge of the service area."[319] This, we stated, would ``give a high level of service in the area in which [the licensee] planned to operate."[320] We concluded that, to maintain this quality of service in the presence of an interfering signal, the interfering signal ``should be 10 dB less than the desired signal at the boundary of the service area of the protected station."[321]

177. Similarly, in the 220 MHz service we proposed to adopt technical parameters to ``enable private land mobile licensees to obtain quality service . . ."[322] and we determined that a 220 MHz station should be protected from interference by the provision of 10 dB protection to the station's 38 dBu contour.[323] E.F. Johnson states that ``reliable" 220 MHz signals may be received at more distant contours than the 38 dBu contour.[324] Other commenters state that ``reliable service" is being provided at such contours.[325] However, these commenters do not define what is meant by a reliable signal or reliable service in the context of the 220 MHz service -- nor do they draw a relationship between the use of these terms and our adoption of criteria to provide for the *protection* of 220 MHz signals in the presence of interfering signals. The signal contour at which they claim ``reliable service" may be provided or where a ``reliable signal" may be received by a mobile (*e.g.*, the location of the 32 dBu or 28 dBu contour) is therefore not determinative in deciding the appropriate 220 MHz signal contour to be protected.

178. Incom argues that we should modify the 38 dBu service contour for the 220 MHz service because we have changed the method by which protected service areas for cellular service are determined,[326] and have also changed the distance that defines protected service areas for MMDS stations.[327] However, as explained in footnote 306, our action in the *Cellular Unserved Second Report and Order* was not an adjustment from one field strength level to another; rather,

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(1974), *recon. granted in part*, 51 FCC 2d 945, *clarified*, 55 FCC 2d 771 (1975), *aff'd sub nom.* NARUC v. FCC, 525 F. 2d 630 (1976), *cert. denied*, 425 U.S. 992 (1976).

[319] *Id.*

[320] *Id.*

[321] *Id.*

[322] *220 MHz Notice*, 4 FCC Rcd at 8601 (para. 55).

[323] *220 MHz Report and Order*, 6 FCC Rcd at 2371 (para. 119).

[324] *See* E.F. Johnson Comments at 7.

[325] *See* Incom Comments at 5; Roamer One Comments at 5, 6.

[326] See para. 171, *supra*.

[327] Incom Comments at 5 (citing Amendment of Parts 21, 43, 74, 78 and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting Private Operational-fixed Microwave Service, Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service, GN Docket Nos. 90-54 and 80-113, Second Order on Reconsideration, 10 FCC Rcd 7074 (1995) (*Second Order on Reconsideration*).

it was a fundamental change in the methodology for determining a cellular licensee's CGSA, from an arbitrarily determined area to one that is based on the technical parameters of authorized existing and proposed facilities. Similarly, in the MMDS service, while we increased the ``protected service area'' for MMDS stations, we did not indicate that we did so in an effort to expand the area within which quality television service signals could be provided.[328] Thus, we find that one of the principal objectives of our signal protection rules for the 220 MHz service -- the design of technical parameters to enable licensees to obtain quality service -- does not have a parallel in the MMDS service, and, therefore, we reject Incom's unsupported suggestion that the MMDS decision is somehow relevant to the issues presented here. Further, no commenter has provided assurance that this principal objective would not be compromised by proposals to provide protection to other than the 38 dBu contour.

179. We do not believe, therefore, that these actions should be applied to our use of the 38 dBu service contour as the protected contour for the 220 MHz land mobile radio service. Moreover, we conclude that our recent decisions in which we *have* examined the protected contour for other mobile services support our decision to not change the 38 dBu contour for the 220 MHz service. For example, in our proceedings addressing the licensing of the 800 MHz and 900 MHz SMR service, we proposed the continued use of the *40* dBu contour as the basis for protection for these services. In both instances, we concluded that we should continue to base interference protection in these services on the provision of protection to the 40 dBu contour.[329] In the *800 MHz SMR Report and Order*, for example, we decided to ``require EA licensees to afford interference protection to incumbent SMR systems, as provided in Section 90.621 of the Commission's rules''[330] -- which provides for protection of a licensee's 40 dBu contour. In support of our decision, we stated that this will ``ensure adequate protection of incumbent operations, without hampering the ability of EA licensees to construct stations throughout their authorized service areas.''[331] For all of these reasons, we believe that it is appropriate to continue to employ the predicted 38 dBu contour as the contour that must be protected by co-channel 220 MHz licensees, and thus we will require Phase II licensees to provide 10 dB protection to the predicted 38 dBu service contour of the base stations of Phase I licensees.

7. Field Strength Limit at EA and Regional Border

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[328] *See Second Order on Reconsideration* at 7078 (para. 9).

[329] *See* 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, Implementation of Sections 3(n) and 322 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463 (1995) (*800 MHz SMR Report and Order*); 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 to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Second Report and Order and Second Further Notice of Proposed Rule Making, 10 FCC Rcd 6884 (1995) (*900 MHz SMR Second Report and Order*).

[330] *800 MHz SMR Report and Order*, 11 FCC Rcd at 1516 (para. 92).

[331] *Id. See also 900 MHz SMR Second Report and Order*, 10 FCC Rcd at 6899-6900 (para. 44), where we decided to continue to base interference protection on the provision of protection to the 40 dBu contour.

a. *Proposal*

180. In the *Third Notice* we indicated that our existing rules for the 220 MHz service do not define a particular ``service area" for non-nationwide stations, but indicated that, as discussed in the *220 MHz Report and Order*, stations operating at maximum authorized power and antenna height would ``provide a service area with a 38 dBu contour at about 45 kilometers (28 miles)."[332] We further pointed out that for various wireless communications services that we license within Commission-defined geographic areas (*e.g*., PCS, 900 MHz SMR) we prescribe limits on the strength of signals licensees may provide at the borders of their service areas.[333] We thus concluded that, for effective operation, a Phase II licensee should be permitted to transmit a signal of at least 38 dBuV/m throughout its area of service, and we therefore proposed a field strength limit of 38 dBuV/m at the border for EA and Regional 220 MHz licensees.[334] In order to allow licensees flexibility to exceed this limit if necessary, we also proposed that licensees be allowed to transmit signals greater than 38 dBuV/m at their border if all affected, co-channel EA and Regional licensees agree to the higher field strength. We also indicated that, when such agreements are in place among co-channel licensees, if interference were to occur to transmissions at or near the border between co-channel licensees, licensees would be expected to coordinate with one another and modify their facilities as necessary to minimize interference.

b. *Comments*

181. Commenters were opposed to our proposal to limit the base station transmissions of EA and Regional licensees to 38 dBu at their borders. Comtech, for example, contends that its systems can ``provide reliable communications well beyond the predicted 38 dBu contour, in the absence of co-channel interference." Comtech believes that if we adopt the proposed 38 dBu limit at EA and Regional borders, ``co-channel interference is likely to arise as a significant limitation to service along a system's border." Therefore, Comtech proposes a 28 dBu standard at the borders.[335] AMTA believes that in conjunction with its proposal that Phase II licensees not exceed 28 dBu at Phase I licensees 28 dBu contour, ``allowing Phase II licensees to provide a signal strength of 28 dBu at borders will provide signal parity between existing and new licensees."[336]

c. *Decision*

182. We have concluded that the predicted 38 dBu service contour is the appropriate field strength contour that should be protected from co-channel interference for the 220 MHz service. Thus, to allow two Phase II licensees operating in adjacent EAs or Regions to each employ a 38

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[332] *220 MHz Report and Order*, 6 FCC Rcd at 2371 (para. 115).

[333] *See, e.g.*, Sections 24.236 and 90.671 of the Commission's Rules, 47 C.F.R. §§ 24.236, 90.671.

[334] In calculating the predicted 38 dBuV/m contour resulting from the transmissions of their base stations, licensees will use the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of our Rules (Figure 10), with a 9 dB correction factor for antenna height differential. *See* 47 C.F.R. § 73.699.

[335] Comtech Comments at 12.

[336] AMTA Reply Comments at 3.

dBu field strength at their border could conceivably result in interference at or near such borders. However, if we were to require that licensees provide a field strength lower than 38 dBu at their borders, we might unnecessarily restrict their ability to provide a quality service to mobiles operating in those areas. Thus, we conclude that to afford Phase II licensees the maximum degree of flexibility in designing their systems and provide a quality signal to all parts of their service area, we will permit licensees to transmit up to a predicted 38 dBu field strength at their border.[337] As proposed, we will also allow licensees to exceed this limit if all affected, co-channel EA and Regional licensees agree to a higher field strength. In instances where interference occurs between co-channel licensees at or near their borders -- *i.e.*, when licensees are operating at or below field strength levels of 38 dBu at the border, or when licensees are operating at greater field strength levels pursuant to agreements with co-channel Phase II licensees -- we will expect licensees to coordinate amongst themselves to minimize such interference and to cooperate to resolve any interference problems that may arise.[338]

D. APPLICATION PROCEDURES

1. Pending Applications for 220 MHz Channels

a. *Proposal*

183. The Commission indicated in the *Third Notice* that it had not yet requested the amending information necessary to process the 33 pending Phase I applications for the nationwide, non-commercial channels.[339] The Commission sought comment on three different means by which to address the pending applications:[340]

- Return the applications without prejudice, as well as the appropriate filing fees, to the 33 applicants, establish a date for the filing of ``short-form" applications for nationwide licenses, and auction mutually exclusive applications.

- Act on the pending petitions for reconsideration of the Commission's June 21, 1993, Order, solicit the required amending information from the 33 applicants, and then conduct a lottery to award the four available nationwide licenses.

- Grant authorizations among the 33 applicants through comparative hearings.

The Commission sought comment regarding the advantages and disadvantages of each of these proposals, and encouraged commenters to address factors that should be deemed relevant for purposes of ascertaining the most appropriate handling of the applications.

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[337] As proposed in the *Third Notice*, in calculating the predicted 38 dBuV/m contour resulting from the transmissions of their base stations, licensees will use the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of our Rules (Figure 10), with a 9 dB correction factor for antenna height differential. *Third Notice*, 11 FCC Rcd at 237 (para. 99) (citing 47 C.F.R. § 73.699 (Fig. 10)).

[338] *See, e.g.*, Section 90.173(b) of the Commission's Rules, 47 C.F.R. § 90.173(b).

[339] *Third Notice*, 11 FCC Rcd at 206 (para. 30).

[340] *Id.*

184. The Commission also observed that, although it has processed nearly all of the 60,000 applications filed for non-nationwide licenses, there are five groups of applications, totalling 34 applications, that were filed on the final day the Commission accepted 220 MHz applications and are mutually exclusive with one another.[341] The Commission sought comment on whether the Commission should resolve these mutually exclusive situations using competitive bidding, lotteries, or comparative hearings.[342]

b. *Comments*

185. Commenters disagree regarding how the Commission should treat pending applications for 220 MHz licenses. Many commenters, particularly Phase I 220 MHz non-commercial, nationwide applicants, urge that we exercise our discretion to use lotteries.[343] Several of these commenters, however, believe that licenses should be awarded by lottery only if the licenses are designated strictly for non-commercial purposes and licensees are restricted from leasing excess capacity.[344]

186. Some commenters who support lotteries base their reasoning on equitable arguments, contending that it would be unfair to applicants who applied in good faith, in accordance with then existing rules, for the Commission to change the rules with respect to these applications.[345] A number of commenters argue that the applicants acted in reasonable reliance on these rules, spending valuable time and money on these applications,[346] and that their business plans did not take into account the possibility that these licenses subsequently might be awarded through competitive bidding.[347] Columbia, Mtel, and WLF contend that a refund of applicants' filing fees is not a sufficient step for the Commission to take, because applicants incurred other out of pocket expenses.[348] Some commenters point out that the delay in processing

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[341] *Id*. at 206 (para. 31).

[342] *Id*.

[343] Airborne Comments at 2; AMTA Comments at 8-11; AMTA Reply at 6-7; Columbia Comments at 2-10; Comtech Comments at 2-4; Comtech Reply at 2-4; Fleet Comments at 2; Global Comments at 1-2; Mtel Comments at 1-10; Mtel Reply at 2-3; PCIA Comments at 5-6; PNC Comments at 4-14; Roamer Comments at 1-2 (supporting position taken by AMTA on this issue); Securicor Comments at 16; 360 Mobile Comments at 1-2; U.S. Central Comments at 1-2; UTC Comments at 3-8; WLF Comments at 2-5.

[344] AMTA Reply at 7 n.12; Comtech Reply at 3. These parties agree that if there is any possibility that these licenses may be used for commercial purposes then they should be awarded by competitive bidding.

[345] *See* AMTA Comments at 8-9; AMTA Reply at 6-7; Columbia Reply at 3; Ericsson Comments at 2-3; Mtel Comments at 10; Mtel Reply at 2-3; WLF Comments at 3-4; Securicor Comments at 16; U.S. Central Comments at 1-2; 360 Comments at 2-3.

[346] Fleet Comments at 2; PNC Comments at 6-8; Columbia Comments at 10; Mtel Comments at 9-10; WLF Comments at 4.

[347] Global Comments at 3; PNC Comments at 9; WLF Comments at 4.

[348] Columbia Comments at 10; Columbia Reply at 6-7; Mtel Comments at 9-10; WLF Comments at 4.

these applications was caused by the Commission and not by the applicants.[349]

187. Other commenters believe there are equally strong equitable arguments for returning the pending applications and awarding these nationwide licenses through auctions.[350] They point out that, with the dramatic change in circumstances due to the comprehensive restructuring of the rules governing 220 MHz service undertaken by the Commission in this proceeding, it would be unfair to move forward with the original applications.[351] If the licenses are redesignated for commercial use it is unfair to limit the pool of applicants to those who applied for non-commercial licenses and consequently to prevent other parties who desire commercial 220 MHz spectrum from obtaining it.[352] Pagenet contends that pending applicants would be unjustly enriched if permitted to obtain licenses through a lottery process.[353] SMR asserts that it may be true that these applicants applied in good faith, but it is also true that they have not yet incurred significant costs associated with their pending applications, and, in any event, their filing fees would be refunded under the competitive bidding option posed by the Commission in the *Third Notice*.[354]

188. Ericsson sets forth a compromise approach in its comments, suggesting that the most equitable solution would be to allocate, by competitive bidding, two nationwide 10 channel blocks for commercial use, and to allocate, by random selection, one nationwide 10 channel block for non-commercial use.[355] Ericsson believes this option accomplishes the Commission's purposes without disadvantaging those applicants who applied for non-commercial licenses.[356]

189. Commenters urge the Commission to avoid delay regarding the licensing of 220 MHz service. For example, Johnson states that it is largely indifferent as to whether the spectrum is allocated for commercial or non-commercial use, or how the licenses are awarded, but it urges the Commission to act expeditiously regardless of the path it takes.[357] PNC believes that choosing auctions over lotteries would lead to additional costs and delays because the Commission would

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[349] Airborne Comments at 2; AMTA Comments at 9; Columbia Comments at 5-6; Columbia Reply at 5-6; PCIA Comments at 5; Securicor Comments at 16; U.S. Central Comments at 1-2; UTC Comments at 5; WLF Comments at 3.

[350] *See* Metricom Comments at 7-8; U.S. Mobilcomm Comments at 4-5; Pagenet Comments at 15-17; Pagenet Reply at 7; SMR Reply at 6.

[351] Metricom Comments at 7-8; U.S. Mobilcomm Comments at 4-5; Pagenet Comments at 15, 17; Pagenet Reply at 7; SMR Reply at 6.

[352] Pagenet Comments at 17; Pagenet Reply at 7; U.S. Mobilcomm Comments at 4-5; Metricom Comments at 7-8.

[353] Pagenet Reply at 7.

[354] SMR Comments at 9.

[355] Ericsson Comments at 3.

[356] *Id.*

[357] Johnson Comments at 3-4.

have to dismiss pending applications, accept new applications, and then conduct an auction.[358] PNC also cites delays that have taken place in conducting previous auctions.[359] SMR contends, however, that there would be even greater delays if lotteries were used because the Commission would have to address several petitions for reconsideration, solicit additional information regarding the pending applications, and then review that information prior to conducting a lottery.[360]

190. Columbia, Mtel, and WLF argue that the pending applicants will be subjected to disparate treatment as compared to other 220 MHz Phase I licensees if the licenses for pending applicants are not awarded by lottery.[361] They point out that these applicants will be singled out unfairly for different treatment and will have to spend substantial sums for their licenses while other Phase I applicants have been permitted to receive their licenses at relatively low cost.[362] On the other hand, Pagenet contends that awarding the licenses by auction is the only way to prevent disparate treatment between winners of the lottery who will, at a minimum, be able to lease excess capacity, and other commercial mobile radio service providers who have paid substantial sums for their spectrum licenses.[363]

191. Commenters generally acknowledge that the Budget Act granted the Commission the discretion to award these licenses by either lotteries or competitive bidding.[364] Several commenters cite two recent decisions, the *MMDS Report and Order* and *Unserved Cellular Lottery Order*, in which the Commission decided to award licenses to pending applicants by lottery rather than by competitive bidding.[365] Mtel, PNC, and Columbia believe that, if the Commission does not follow this precedent in this proceeding, then the Commission would be subjecting these applicants to disparate treatment.[366] Some commenters also argue that the same considerations that led the Commission to decide to award the licenses by lottery in these cases

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[358] PNC Comments at 11-14.

[359] *Id.* at 13.

[360] SMR Comments at 8-9.

[361] Columbia Comments at 6-7; Columbia Reply at 3-4; Mtel Comments at 8-9; WLF Comments at 3.

[362] Columbia Comments at 7; WLF Comments at 3.

[363] Pagenet Comments at 6, 9; Pagenet Reply at 11-12.

[364] Columbia Comments at 2-3; Pagenet Reply at 4-5; PNC Comments at 4; SMR Comments at 6-7; SMR Reply at 6-7; U.S. Mobilcomm Comments at 6-7; WLF Comments at 3.

[365] Columbia Comments at 3; Columbia Reply at 4; PNC Comments at 9-10, 12-13; WLF Comments at 4; Mtel Comments at 8-9; UTC Comments at 7-8; U.S. Central Comments at 1-2.

[366] Mtel Comments at 8-9; PNC Comments at 9-10; Columbia Reply at 4.

are present in this case.[367] Several commenters contend that since the Commission did not have auction authority until after these applications were filed, the Commission cannot now retroactively apply new rules to pending applications.[368] SMR and Pagenet argue, however, that the Commission's action would not result in the retroactive application of our rules.[369] Pagenet contends that there is ample precedent for dismissing pending applications,[370] and also argues that in the *Cellular Lottery Rulemaking*[371] the Commission decided to amend its rules and implemented the use of lotteries for cellular applications that were already on file.[372]

192. Several commenters are concerned that the Commission's willingness to adopt competitive bidding with respect to these licenses indicates that the Commission has decided to elevate revenue raising over the public interest and the needs of potential users.[373] Comtech contends that such a policy is proscribed by the Communications Act.[374] Pagenet, however, argues that auctions allow the Federal Government, on behalf of the American people, to collect some measure of value in return for the use of the public spectrum.[375] Pagenet also argues that under the Communications Act the Commission is charged with promoting the development and rapid deployment of services to the public and ensuring that the spectrum is used productively and efficiently.[376]

193. Pagenet and Metricom assert that using auctions will speed development and lead to the more efficient use of 220 MHz spectrum.[377] Pagenet argues that lotteries do not ensure that

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[367] PNC Comments at 12-13 (delay and costs to the Commission and applicants); PNC Comments at 8-9 (stringent construction and operation requirements will prevent speculation, business plans did not take auctions into account); U.S. Central Comments at 1-2 (delay was not the fault of applicants who had assumed that the Commission would conduct lotteries); UTC Comments at 7-8 (few applications, pending a significant period of time).

[368] AMTA Comments at 8-9; AMTA Reply at 6-7; Global Comments at 2; 360 Mobile Comments at 2; Mtel Comments at 4-5.

[369] SMR Reply at 5; Pagenet Reply at 8-11.

[370] Pagenet Comments at 16; Pagenet Reply at 6.

[371] Amendment of the Commission's Rules to Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings, CC Docket No. 83-1096, Report and Order, 98 FCC 2d 175 (1984) (*Cellular Lottery Rulemaking*). At the time the applications were filed licenses were awarded on the basis of comparative hearings.

[372] Pagenet Reply at 7.

[373] Comtech Comments at 3; Columbia Reply at 7; ITA Comments at 8-9.

[374] Comtech Comments at 3.

[375] Pagenet Comments at 4-5; Pagenet Reply at 11.

[376] Pagenet Comments at 7; Pagenet Reply at 5, 10-11.

[377] Pagenet Comments at 5, 7; Metricom Comments at 7.

the winner will actually provide service, and asserts that many prior licenses granted by lottery were eventually forfeited for failure to construct or were sold prior to construction of any systems to serve the public.[378] Pagenet points out that lottery winners would be more likely to construct a system using relatively inexpensive, spectrum inefficient technology, with an eye toward selling their licenses as soon as the rules permit.[379] Pagenet asserts that the competitive bidding process discourages this type of speculation.[380] Columbia points out, however, that in the case of the 220 MHz spectrum there are stringent entry criteria, build out requirements, and rules to prevent unjust enrichment which will prevent trafficking and speculation in these licenses.[381]

194. SMR argues that awarding licenses through competitive bidding ensures that the spectrum will be held by the parties that value it the most, not by those who are the luckiest.[382] Columbia asserts, however, that a party's ability to pay does not equate with the party who values the spectrum the most, and that the Commission will never be able to meet its statutory obligation to provide spectrum for private, non-commercial requirements under this mistaken rationale.[383]

195. No commenters prefer using comparative hearings rather than lotteries to award these licenses. Airborne is the sole commenter supporting the use of comparative hearings if the Commission were choosing between comparative hearings and auctions.[384] Several commenters cite the delays and costs associated with comparative hearings.[385] PNC believes that comparative hearings do not necessarily result in the selection of more qualified licensees.[386] In addition, commenters assert that the Commission has previously rejected the option of using comparative hearings to award licenses in the *220 MHz Report and Order*, and that there is no need to revisit the issue at this time.[387]

196. Finally, Echo asks that, regardless of the option selected, the Commission allow the

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[378] Pagenet Comments at 5.

[379] Pagenet Comments at 7-8.

[380] Pagenet Comments at 5.

[381] Columbia Comments at 9. *See also* PNC Comments at 9 (build-out requirements).

[382] SMR Comments at 9.

[383] Columbia Reply at 6.

[384] Airborne Comments at 3.

[385] AMTA Comments at 8 n.16; Columbia Comments at 11-12; Pagenet Comments at 5, 7; Pagenet Reply at 5-6; PNC Comments at 17-19; SMR Comments at 8.

[386] PNC Comments at 15-17.

[387] Columbia Comments at 10-11; Mtel Comments at 3; PNC Comments at 14-15; UTC Comments at 4-5.

pending applicants to withdraw their applications and recoup their filing fees.[388] Echo argues that, because of the extended delay, business conditions have changed dramatically and the Commission should accommodate those applicants who have undergone unforeseen changed circumstances by allowing pending applicants this option.[389]

c. *Decision*

197. We find that it is in the public interest to return all pending applications and appropriate filing fees, both nationwide and local, for the 220 MHz service, without prejudice, and to accept new applications after the effective date of our Phase II rules. As we explain below, all mutually exclusive Phase II applications, except those applications for public safety and EMRS channels, will be subject to competitive bidding because they met the criteria for auctionable services.

198. We base our decision on several factors. First, the rules we adopt in this Report and Order will significantly alter the technical and operational rules for the 220 MHz service. Our new 220 MHz rules will afford licensees a great deal more flexibility than the rules in effect when the pending applications were filed. For example, the original rules permitted fixed and paging operations only on an ancillary basis to a licensee's primary land mobile operations. Our action today replaces those rules with a licensing framework that permits 220 MHz licensees to engage in fixed and paging operations on a primary basis. In addition, we have found that geographic, rather than individual site-specific, licensing is more appropriate for the 220 MHz service. We are therefore replacing the prior form of licensing with a framework that provides carriers with an increased degree of flexibility in providing service throughout a geographic license area.

199. The nature of the use for the nationwide channels has changed even more dramatically since the time we originally adopted rules for 220 MHz service. At the time the Commission accepted the pending nationwide applications, the rules specified that these channels could be used for non-commercial purposes and that a licensee could lease excess capacity only after meeting its five-year construction benchmarks.[390] As we have previously concluded, we no longer believe that it serves the public interest to designate these channels for non-commercial use. Instead, we find that the public will benefit by allowing a nationwide licensee the flexibility to use some or all of its licensed 220 MHz spectrum to offer service to the public. We note that two commenters advocating that we lottery pending applications have acknowledged that if the Commission allows these licensees to provide any commercial services, a lottery would not be an appropriate method to award the licenses because auctions provide incentives for more efficient use of the spectrum.[391]

200. We conclude that, because the nature of the 220 MHz service is undergoing such substantial change, it would be unfair to preclude new applicants from having the opportunity to

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[388] Echo Comments at 2-4.

[389] *Id.*

[390] Section 90.733(d) of the Commission's Rules, 47 C.F.R. § 90.733(d).

[391] AMTA Reply at 7; Comtech Reply at 3.

apply for these 220 MHz licenses. In 1991, when the pending applications were filed, parties interested in using the 220 MHz spectrum may have decided not to apply for these licenses because the rules precluded a licensee from offering the type of service that these parties desired to offer, such as primary fixed service, paging, or nationwide commercial service. Although we will not preclude licensees from using their 220 MHz licenses for internal communications or for two-way land mobile communications, we do not believe that pending applicants should be afforded the exclusive benefit of receiving licenses that may be used for substantially different purposes than those for which the licenses originally could be used, and at the same time prevent new applicants who may desire to offer service to the public from having the opportunity to apply for such licenses. We have concluded that such a restriction on the pool of applicants is not equitable, nor is it sound public policy. Opening a filing window for all interested applicants, in our view, will increase the likelihood that competitive processes will trigger the delivery of a broad array of services to customers at reasonable prices.

201. Second, we agree with commenters that comparative hearings would lead to delay of service to the public and would increase administrative costs for applicants and the Commission. As commenters indicate, the Commission previously has considered and rejected the use of comparative hearings to assign 220 MHz licenses from among mutually exclusive applicants.[392]

202. Finally, we note that the Commission has found that auctioning spectrum will benefit the public by ensuring that licenses go to those who value them the most and to those who have an incentive to build their systems quickly, thereby speeding the provision of service to the public.[393]

203. We disagree with those commenters who argue that a decision to return these applications and conduct an auction will increase the likelihood of petitions for reconsideration and court challenges. Given the significant changes to the 220 MHz service rules that we adopt in this Report and Order, we think it is equally likely that a decision to lottery the pending applications would result in the same type of delay because the Commission would foreclose the opportunity for newly interested parties to obtain these licenses, thus exposing the Commission to court challenges from a different direction.

204. We also disagree with commenters arguing that Commission precedent requires that we lottery the pending applications. In the case of cellular unserved area applications, the Commission had not significantly altered the rules for the provision of cellular service, such that a Commission decision might stimulate substantially more interest by potential applicants. Indeed, the geographic area for which an applicant originally applied did not change, nor did the nature of the service. Similarly, in the *MMDS Report and Order,* we specifically stated that ``while we are moving to larger geographic area authorizations and expanded service area protection, we are not fundamentally changing the nature of the service. Licensees still will be providing wireless cable service to subscribers, albeit under altered conditions designed to make the service more competitive with cable television."[394] Additionally, pending nationwide applications are

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[392] *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4488-89 (paras. 17-22).

[393] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2349-50 (paras. 3-5).

[394] *MMDS Report and Order*, 10 FCC Rcd at 9633 (para. 92).

distinguishable from the pending MMDS applications because unlike in the MMDS situation in which the Commission was able to proceed quickly to conduct a lottery, if we decide to award these licenses by lottery the Commission would first have to address petitions for reconsideration of our nationwide, non-commercial decisions, and consequently applicants may have to alter their original submissions.[395]

205. We also disagree with commenters claiming that the Commission does not have the authority to return these pending applications and conduct an auction from among new, mutually exclusive applications. As we explained in the *MMDS Report and Order*, Section 6002(e) of the Budget Act, entitled ``Special Rule," made an exception to the general requirement that, if a service met the standards for auctionability under Section 309(j)(2) of the Communications Act, the Commission could not use a lottery to award licenses for such service. Section 6002(e) permits the Commission to use a lottery to award licenses even for an otherwise auctionable service for applications accepted for filing before July 26, 1993.[396] In adopting this provision, Congress indicated that the exception would ``permit" but not require, the Commission to use lotteries for certain IVDS and ``several other licenses."[397] Since, as we explain below, we find that the 220 MHz service meets the standards for auctionability, the Commission has the authority to award these licenses by competitive bidding.

206. We also agree with Pagenet that there is clear legal precedent for the Commission to dismiss pending applications.[398] Contrary to the views of some commenters, applying new rules to pending applications does not constitute retroactive rulemaking. It is well settled that the Commission may apply new rules to pending applications.[399] As we previously found in the *Part 22 Rewrite Order*, the fact that an application remained pending because of petitions for reconsideration does not affect the Commission's authority to apply new rules to the application.[400] Furthermore, ``[u]ntil action on an application is final, processing has not been completed, and rule changes applied to that application are not retroactive."[401] Because we have decided to return pending applications and open a filing window for new applications before conducting an auction, we need not address contentions in the record that the Commission does not have the authority to conduct an auction that limits participation to parties with pending

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[395] *See id.* at 9632 (para. 90).

[396] *Id*. at 9633 (para. 94).

[397] H. R. Conf. Rep. No. 103-213 at 498, 103rd Cong., 1st Sess., (1993), 1993 U.S.C.C.A.N. 1088 at 1113-14.

[398] Pagenet Comments at 15-16 (citing Private Operational-Fixed Microwave Service, 48 Fed. Reg. 32,578 (1983), *aff'd*, Affiliated Communications Corp. v. FCC, No. 83-1686 (D.C. Cir. May 9, 1985)).

[399] *See, e.g.*, United States v. Storer Broadcasting Co., 351 U.S. 192 (1956); Hispanic Information and Telecommunications Network v. FCC , 865 F.2d 1289 (D.C. Cir. 1989); Maxcell Telecom Plus, Inc. v. FCC, 815 F.2d 1551 (D.C. Cir. 1987).

[400] Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, CC Docket No. 92-115, Report and Order, 9 FCC Rcd 6513, 6534-35 (para. 100) (1994) (*Part 22 Rewrite Order*).

[401] *Id.* at 6535 (para. 100).

applications. Furthermore, since we will be returning the pending applications we find that the Petitions for Reconsideration filed in this matter by Columbia Cellular Corporation, PLMRS Narrowband Corp. and 360 Mobile Data Joint Venture on August 6, 1993 should be dismissed as moot. These petitions requested reconsideration of our 1993 decision in the *220 MHz Second Reconsideration Order*, which only addressed issues concerning non-commercial nationwide 220 MHz licenses.[402] The Petitions for Reconsideration will be moot because we will no longer have a non-commercial designation in the 220 MHz service.

2. Other Applications Issues

207. As we noted in the *Third Notice*, in the *CMRS Third Report and Order*, we adopted rules to govern the filing and processing of applications for Part 90 services reclassified as CMRS that were comparable to our rules for Part 22 services, but declined to consider definitions of initial applications and major or minor modifications and amendments for the 220 MHz service until we more fully examined the service in this rulemaking proceeding. We address these definitions and other application issues below.

a. *Initial Applications*

208. As we observed in the *Third Notice*, we proposed a definition of initial applications for the 220 MHz service that is similar to that adopted in the *CMRS Third Report and Order* for other mobile services that are licensed on a market or geographically-defined basis. Specifically, we propose to define an initial application for a 220 MHz license as an application for an EA, Regional, or nationwide license, regardless of whether the applicant is an incumbent 220 MHz licensee in the geographic area covered by the requested license.
No comments were received regarding this issue. We will therefore define initial applications for the 220 MHz service as proposed.

b. *Amendment of Applications and Modification of Authorizations*

209. In the *Third Notice*, we proposed to adopt rules consistent with other reclassified Part 90 services to govern amendments to applications and modification of Phase II licenses. We thus proposed that applicants for the Phase II licenses have a limited opportunity to cure minor defects in their short-form applications and not be allowed major amendments after the expiration of the short-form filing window.[403] We also noted that a nationwide, EA, or Regional licensees generally would not seek major modification other than in the case of assignments or transfers of control.[404] We received no comments on this issue. We thus adopt our proposed limitations for filing amendments to applications, and will permit Phase II licensees to file modifications to their licenses only in cases of assignments or transfers of control.

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[402] *220 MHz Second Reconsideration Order*, 8 FCC Rcd 4161.

[403] Sections 24.422 and 24.822 of the Commission's Rules, 47 C.F.R. §§ 24.422, 24.822.

[404] 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, RM-8117, RM-8030, RM-8029, and Implementation of Section 309(j) of the Communications Act - Competitive Bidding: 800 MHz SMR, PP Docket No. 93-253, Further Notice of Proposed Rule Making, 10 FCC Rcd 7970 (1994) (*800 MHz Further Notice*).

c. *Special Temporary Authority*

(1) Proposal

210. In the *Third Notice*, we noted that under the *CMRS Second Report and Order*, all paging services and all private mobile licensees reclassified as CMRS and licensed to provide service as of August 10, 1993 were afforded a three-year grandfathering period under the Part 90 PMRS rules.[405] In the *CMRS Third Report and Order*, we had concluded that ``licensee status before the August 10, 1993 deadline is the sole factor in determining whether the licensee will be treated as being in the PMRS until August 10, 1996."[406] Some reclassified PMRS providers have Part 90 STAs or conditional grants that were in effect at the time we adopted the *CMRS Third Report and Order*. However, we concluded that such STAs or conditional grants would be extended only until August 10, 1996, when their reclassification as CMRS becomes effective.[407] Additionally, we concluded that: (1) reclassified PMRS that were not grandfathered under the Part 90 rules and that had STAs or conditional grants only possessed such grants until the grants' scheduled expiration, or 60 days from the effective date of the *CMRS Third Report and Order*;[408] and (2) such STAs could not be extended, and the non-grandfathered reclassified licensees could only apply for STAs and conditional grants under Part 22 rules.

211. In the *Third Notice* we decided that such reasoning should also be applied to the 220 MHz service, and thus tentatively concluded that non-grandfathered 220 MHz CMRS licensees with STAs should only be allowed to apply for STAs or conditional grants, or extensions to existing STAs or conditional grants, under Part 22 rules. Additionally, we indicated that in granting STAs for 220 MHz licensees we must follow Section 309(f) of the Communications Act, which states that STAs should be granted to CMRS providers only in ``extraordinary circumstances involving particular applications."

(2) Decision

212. AMTA and SMR argue that Phase I licensees should be deemed to have satisfied the extraordinary circumstances criteria for obtaining an STA to the extent that they were unable to modify their licenses due to the freeze that was in existence at the time their comments were filed.[409] As noted in the *Third Notice*, we have issued a number of STAs to Phase I 220 MHz licensees to operate their base stations at unauthorized locations. We conclude that such STAs should be extended until such time as the applications of such licensees to modify their authorization to relocate their base stations are acted upon by the Commission (*see 220 MHz Second Report and Order*). STAs granted to licensees for any other type of unauthorized operation (*e.g.*, to operate at higher power levels than authorized) shall not be renewed. We

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[405] *CMRS Second Report and Order*, 9 FCC Rcd at 1513-14 (paras. 280-284).

[406] *CMRS Third Report and Order*, 9 FCC Rcd at 8166 (para. 409).

[407] *Id.* at 8156 (para. 384).

[408] *Id.*

[409] AMTA Comments at 20; SMR Comments at 17-18.

conclude further that as of August 10, 1996, all 220 MHz licensees meeting the definition of CMRS are required to seek STAs as common carriers, and that we will apply the standard for granting STAs as prescribed in Section 309(f) of the Communications Act -- *i.e.*, that STAs should be granted to CMRS providers only in ``extraordinary circumstances involving particular applications."[410]

d. *Renewal Expectancy*

(1) Proposal

213. In the *CMRS Third Report and Order*, we decided that every Part 90 licensee that is reclassified and treated as a CMRS carrier when its current license term expires would have a 10-year license term and be afforded a renewal expectancy.[411] We also extended our rules for Part 22 services regarding renewal expectancy to all Part 90 CMRS licensees.[412] Specifically, Section 22.940 of our rules provides that a cellular renewal applicant will receive a preference in a comparative renewal proceeding by demonstrating that it: (1) has provided substantial service during the license term; and (2) has complied with applicable Commission rules and policies, and the Act.[413]

214. In the *Third Notice*, we proposed to apply these provisions to all Phase I and Phase II 220 MHz licensees, rather than only to those providing CMRS services as currently required. We advanced this proposal because: (1) we had proposed a 10-year license term for all Phase II 220 MHz licensees regardless of whether the licensee is CMRS or PMRS; and (2) because the new framework for the 220 MHz service proposed in the *Third Notice* significantly alters the service.[414] We thus believed it was appropriate to apply these more stringent renewal standards to non-CMRS as well as CMRS licensees as part of the overall changes to the 220 MHz framework.

(2) Comments; Decision

215. Pagemart and SMR support the Commission's proposal to provide a renewal expectancy for all Phase I and Phase II 220 MHz licensees that would be consistent with renewal

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[410] *CMRS Third Report and Order*, 9 FCC Rcd at 8155 (para. 383).

[411] *Id.* at 8157 (para. 386).

[412] *CMRS Further Notice*, 9 FCC Rcd at 2892 (paras. 139-140).

[413] Section 22.940 of the Commission's Rules, 47 C.F.R. § 22.940. Substantial service is defined in the rule as service that is sound, favorable, and substantially above a level of mediocre service, which would barely warrant renewal. We noted that although Part 22 does not expressly provide for preferences in the case of non-cellular licensees, we have applied to other Part 22 licensees, by case law, renewal expectancy principles that are similar to the standards applied to cellular licensees. *See* *CMRS Further Notice*, 9 FCC Rcd at 2892 n.244 (para. 139); (citing, as an example of the case law, In re Applications of Baker Protective Services, Inc., 59 Rad. Reg. 2d 1141 (1986)).

[414] We indicated, as an example of the changes to the service, our proposal to allow fixed and paging operations on a primary basis for both Phase I and Phase II licensees.

expectancies for other CMRS licensees.[415] We continue to believe that it is appropriate to require all Phase I and Phase II 220 MHz licensees seeking renewal of their authorization to meet the requirements for license renewal similar to those provided in Section 22.940 of our rules. Phase I, non-nationwide licensees will be required to meet these requirements at the end of their 5-year license term; and Phase I nationwide licensees and all Phase II licensees will be required to meet these requirements at the end of their 10-year license term.

E. AUCTION RULES

1. Competitive Bidding Design

a. *Proposal*

216. In the *Competitive Bidding Second Report and Order*, we found that: (l) licenses with strong value interdependencies should be auctioned simultaneously; and (2) multiple round auctions generally yield more efficient allocations of licenses than single round bidding by providing bidders with information regarding other bidders' valuations of licenses, especially where there is substantial uncertainty as to value.[416] We tentatively concluded in the *Third Notice* that simultaneous multiple round auctions would be appropriate for the Phase II licenses of the 220 MHz service, based on our conclusions in the *Competitive Bidding Second Report and Order* and our auction experience.[417] We also sought comment on any alternative bidding designs and their applicability to the 220 MHz service.[418] However, we tentatively concluded that combinatorial bidding, for example, would be unnecessary in most 220 MHz auctions.[419]

b. *Comments*

217. The SMR Advisory Group supports the use of the simultaneous multiple round auction design for all Phase II 220 MHz licenses.[420] AMTA, while disagreeing with the Commission's proposal to auction the noncommercial nationwide 220 MHz licenses, otherwise concurs that a simultaneous multiple round auction is an appropriate competitive bidding design for Phase II 220 MHz licenses.[421] The National Telecommunications and Information Administration (NTIA) urges the Commission to adopt combinatorial bidding for the 220 MHz

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[415] Pagemart Comments at 5, SMR Comments at 17.

[416] *See Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360 (para. 69); *recon*. Second Memorandum Opinion and Order, 9 FCC Rcd 7245 (1994) (*Competitive Bidding Second Memorandum Opinion and Order*).

[417] *Third Notice*, 11 FCC Rcd at 243 (para. 111).

[418] *Id*. at 244 (para. 112).

[419] *Id*. at 244-45 (para. 113).

[420] SMR Comments at 19.

[421] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

auction. NTIA contends that this auction design is more efficient because allowing package bidding will result in the award of licenses at their actual value to bidders who value them the highest, will reduce or eliminate the risk for bidders of winning only a part of the package sought, and will likely generate more revenue.[422]

c. *Decision*

218. Based on the record in this proceeding and our successful experience conducting simultaneous multiple round auctions for other CMRS services (*e.g.*, narrowband and broadband PCS and 900 MHz SMR) and the Multipoint Distribution Service (MDS), we conclude that this is the preferable competitive bidding design for all Phase II 220 MHz service licenses. We have developed a computer system capable of handling approximately 1500 licenses in a simultaneous multiple round auction, and it is therefore administratively feasible to use this auction design to award all 220 MHz licenses simultaneously. For certain bidders, these licenses will be significantly interdependent because of the desirability of aggregation across spectrum blocks and geographic areas. Simultaneous multiple round bidding will generate more information about license values during the course of the auction and provide bidders with more flexibility to pursue back-up strategies than if the licenses were auctioned separately or through sealed bidding. We also expect the value of these licenses to be sufficiently high to warrant simultaneous multiple round bidding. We currently do not have the operational capability of conducting an auction using combinatorial bidding and therefore will not do so to award 220 MHz licenses. However, we are looking into the possibility of developing this capability for future auctions.

2. Bidding Procedures

a. *License Grouping*

(1) Proposal

219. We proposed in the *Third Notice* to auction the nationwide and Regional licenses in one simultaneous multiple round auction. We stated that grouping the nationwide and Regional licenses together would allow bidders to pursue aggregate bidding strategies.[423] We proposed to auction the EA licenses subsequently in one simultaneous multiple round auction.

(2) Comments

220. The SMR Advisory Group, the sole commenter addressing this issue, supports our proposal to auction the nationwide and regional licenses in a single simultaneous multiple round auction, followed by a simultaneous multiple round auction of the EA licenses.[424]

(3) Decision

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[422] NTIA Reply Comments at 5-6.

[423] *Third Notice*, 11 FCC Rcd at 246 (para. 116).

[424] SMR Comments at 19 n.20.

221. After further consideration, we believe that the nationwide, Regional, and EA 220 MHz licenses are all highly interdependent. Grouping interdependent licenses and putting them up for bid at the same time facilitates awarding licenses to bidders who value them most highly by providing bidders with information about the prices of complementary and substitutable licenses during the course of an auction. We therefore plan to hold a single simultaneous multiple round auction for all nationwide, Regional, and EA licenses. We reserve the discretion, however, to auction each of these license groupings (*i.e.*, nationwide, Regional, EA) separately or in different combinations (*e.g.*, nationwide and Regional together) if there are administrative reasons for doing so.

b. ***Bid Increments and Tie Bids***

(1) Proposal

222. A minimum bid increment is the amount or percentage by which a bid must be raised above the previous round's high bid in order to be accepted as a valid bid in the current bidding round.[425] The application of a minimum bid increment speeds the progress of the auction and, along with activity and stopping rules, helps to ensure that the auction closes within a reasonable period of time.[426]

223. In the *Third Notice*, we proposed to start the 220 MHz auctions with relatively large minimum bid increments, and to adjust the increments as bidding activity warrants. We stated that it was important when simultaneous multiple round bidding is used, in establishing the amount of the minimum bid increment, to express such an increment as both a percentage and fixed-dollar amount. This ensures a timely completion of the auction even if bidding begins at a very low dollar amount. Accordingly, we suggested a minimum bid increment of five percent of the high bid in a previous round, or $0.01 per MHz-pop, whichever is greater.[427] We also proposed to retain the discretion to vary the minimum bid increments for individual licenses or groups of licenses at any time before or during the course of the auction, based on the number of bidders, bidding activity, and the aggregate high bid amounts.[428]

(2) Comments

224. Parties commenting on this issue support the establishment of a minimum bid

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[425] *See, e.g., Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 124).

[426] *Id.*

[427] The number of ``MHz-pops," or bidding units, is calculated by multiplying the population of the license service area by the amount of spectrum authorized by the license. Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, Second Order on Reconsideration and Seventh Report and Order, PR Docket No. 89-553, PP Docket No. 93-253, GN Docket No. 93-252, 11 FCC Rcd 2639, 2672 (para. 80 n.159) (1995) (*Competitive Bidding Seventh Report and Order*).

[428] *Third Notice*, 11 FCC Rcd at 247 (para. 118).

increment.[429]

(3) Decision

225. The general guidelines for bid increments will be announced by Public Notice prior to the auction. In the case of a tie bid, we will determine the high bidder by the order in which the bids were received by the Commission.[430]

c. *Stopping Rules*

(1) Proposal

226. In the *Third Notice*, we indicated that, if simultaneous multiple round auctions were used for the Phase II 220 MHz licenses, we preferred using: (1) a simultaneous stopping rule for the nationwide and Regional licenses; and (2) a hybrid stopping rule or a market-by-market closing rule for EA licenses.[431] We proposed to use a simultaneous stopping rule for the EA licenses as well if we determined that a simultaneous stopping rule would be simpler to administer than either a hybrid or a market-by-market stopping rule. Conversely, we proposed using a market-by-market or hybrid stopping rule for the higher value 220 MHz licenses if we concluded that a simultaneous stopping rule is too complex administratively. We proposed announcing by Public Notice before each auction the stopping rule that we would use. In addition, we proposed that if we adopted a simultaneous stopping rule, we would retain the discretion to declare at any point in a simultaneous multiple round auction that the auction would end after one additional round or some other specified number of additional rounds.[432]

(2) Comments

227. The SMR Advisory Group notes that our proposal with regard to stopping rules resembles the procedures used in previous auctions and that it therefore seems appropriate for the 220 MHz auction.[433] No other comments on this issue were received.

(3) Decision

228. We will adopt a simultaneous stopping rule for the Phase II 220 MHz service auction, and elect not to employ a hybrid rule or a market-by-market closing rule. Our experience to date demonstrates that the simultaneous stopping rule balances the interests of administrative efficiency and maximum bidder participation. Under a simultaneous stopping rule, bidding will remain open on all licenses in an auction until bidding stops on every license. We conclude that

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[429] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[430] *See Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 125).

[431] *Third Notice*, 11 FCC Rcd at 248 (para. 120).

[432] *Id*. at 249 (para. 121).

[433] SMR Comments at 20 n.21.

the substitutability between and among licenses in different geographic areas and the importance of preserving bidders' ability to pursue back-up strategies support the use of a simultaneous stopping rule.

229. The Phase II 220 MHz service auction will close after one round passes in which no new valid bids or proactive activity rule waivers (as discussed below) are submitted. We retain the discretion, however, to keep the auction open even if no new acceptable bids and no proactive waivers are submitted in a single round. In the event that we exercise this discretion, the effect will be the same as if a bidder has submitted a proactive waiver. We also retain the discretion to announce market-by-market closings.

230. We further retain the discretion to declare at any point that the auction will end after some specified number of additional rounds. If this option is exercised, bids will be accepted only on licenses where the high bid has increased in the last three rounds. This will deter bidders from continuing to bid on a few low value licenses solely to delay the closing of the auction. It also will enable the Commission to end the auction when it determines that the benefits of terminating the auction and issuing licenses exceed the likely benefits of continuing to allow bidding.

d. ***Activity Rules***

(1) Proposal

231. In the *Third Notice*, we proposed to employ the Milgrom-Wilson activity rule if simultaneous multiple round auctions were used for the Phase II 220 MHz licenses.[434] We proposed a minimum activity level requiring bidders to be active on at least one-third of the MHz-pops for which they are eligible in Stage I, two-thirds of the MHz-pops for which they are eligible in Stage II, and 100 percent of the MHz-pops for which they are eligible in Stage III.[435] Finally, to avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission on a particular day, we proposed permitting each bidder to receive a certain number of waivers, to be announced by Public Notice.[436]

(2) Comments

232. The SMR Advisory Group supports use of the Milgrom-Wilson activity rule for 220 MHz service auctions.[437] AMTA likewise favors the Commission's adoption of the same type of activity rules that have proven successful in other auctions.[438] In order to increase bidder flexibility, however, NTIA proposes that the activity level for Stage III be reduced from 100

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[434] *Third Notice*, 11 FCC Rcd at 249-51 (paras. 122-124).

[435] *Id.* at 250-51 (para. 124).

[436] *Id.* at 251-52 (paras. 125-126).

[437] SMR Comments at 20 n.21.

[438] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

percent to 90 percent.[439]

(3) Decision

233. We will employ the Milgrom-Wilson activity rule in conjunction with the simultaneous stopping rule in a manner similar to that employed in our prior auctions. Unless a waiver is applied, as discussed below, a bidder's eligibility (in terms of bidding units)[440] in the current round is determined by the bidder's activity level and eligibility in the previous round. In the first round, however, eligibility is determined by the bidder's upfront payment.

234. In each round of Stage I, a bidder that wishes to maintain its current eligibility must be active on licenses encompassing at least 60 percent of the activity units for which it currently is eligible. Failure to maintain the requisite activity level will result in a reduction in the amount of activity units upon which a bidder will be eligible to bid in the next round of bidding (unless an activity rule waiver, as defined below, is used). During Stage I, if bidding activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by five thirds (5/3). Eligibility for each applicant in the first round of the auction is determined by the amount of the upfront payment received and the licenses identified in its auction application. In each round of Stage II, a bidder that wishes to maintain its current eligibility in the next round is required to be active on at least 80 percent of the activity units for which it is eligible in the current round. During Stage II, if activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by five fourths (5/4). In each round of Stage III, a bidder that wishes to maintain its current eligibility must be active on licenses encompassing at least 98 percent of the activity units for which it is eligible in the current round. In Stage III, if activity in the current round is below 98 percent of current eligibility, eligibility in the next round will be calculated by multiplying the current round activity by fifty forty-ninths (50/49).

235. We believe that initially establishing required activity at these levels will achieve a proper balance between allowing for bidder flexibility and completing the auction within a reasonable time. We agree with NTIA that requiring a 100 percent level of activity in Stage III may inhibit bidder flexibility and be unduly restrictive. In addition, activity levels of 60, 80 and 98 percent are far easier to administer, both for bidders and for the Commission, than the fractional one-third, two-thirds, and 100 percent activity levels. In addition to easing administrative burdens, the increased activity requirement will require bidders to focus their bidding and will contribute to increasing the pace of the auction.

236. As in prior auctions, we will determine the transition from one stage to the next in the Phase II 220 MHz auction based on a variety of measures of bidder activity including, but not limited to, the auction activity level (*i.e.*, the sum of bidding units of those licenses whose high bid increased in the current round, as a percentage of the total bidding units of all licenses in the auction), the percentage of licenses (measured in terms of bidding units) on which there are new

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[439] NTIA Reply Comments at 13-16.

[440] See note 427, *supra*.

bids, the number of new bids, and the percentage increase in revenue.[441] In no case can the auction revert to an earlier stage. The Wireless Telecommunications Bureau will announce when the auction will move from one stage to the next.

237. To avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission on a particular day, we will provide bidders with five activity rule waivers that may be used in any round during the course of the auction. If a bidder's activity level is below the required activity level, a waiver will be applied automatically. That is, for example, if a bidder fails to submit a bid in a round, and its activity level from any ``standing" high bid(s) (*i.e.*, high bid(s) at the end of the bid withdrawal period in the previous round) falls below its required activity level, the bidder will receive an automatic waiver. A waiver will preserve current eligibility in the next round, but cannot be used to correct an error in the bid amount. An activity rule waiver applies to an entire round of bidding and not to a particular nationwide, Regional, or EA service area.

238. Bidders may override the automatic waiver mechanism when they place a bid, if they wish to reduce their bidding eligibility. If a bidder overrides the automatic waiver mechanism, its eligibility will be reduced permanently (according to the formulas specified above), and it will not be permitted to regain its bidding eligibility from a previous round. If an automatic waiver is applied in a round where there are no valid bids, the auction will end. Bidders will have the option to proactively enter an activity rule waiver during the bid submission period. A proactive waiver, as distinguished from an automatic waiver, is one requested by the bidder. If a bidder submits a proactive waiver in a round in which no other bidding activity occurs, the auction will remain open.

e. *Duration of Bidding Rounds*

(1) Proposal

239. In the *Third Notice*, we proposed that if simultaneous multiple round auctions are used for the Phase II 220 MHz licenses, we would use the same or similar procedures regarding duration of bidding rounds as those used in previous simultaneous multiple round auctions.[442]

(2) Comments

240. No comments were received on this issue.

(3) Decision

241. In simultaneous multiple round auctions, we recognize that bidders may need a significant amount of time to develop their bidding plans and evaluate back-up strategies. The Wireless Telecommunications Bureau will announce the duration of and intervals between bidding rounds, either by Public Notice prior to the auction or by announcement during the auction.

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[441] *See* ``Auction of Broadband Personal Communications Services (D, E and F Blocks)," *Public Notice*, DA 96-1026 (rel. June 25, 1996).

[442] *Third Notice*, 11 FCC Rcd at 252-53 (para. 129).

3. Procedural and Payment Issues

a. *Pre-Auction Application Procedures*

(1) Proposal

242. In the *Third Notice*, we proposed to follow the procedural and payment rules established in the *Competitive Bidding Second Report and Order*, with certain minor modifications designed to address the particular characteristics of the 220 MHz service.[443] In addition, we proposed to adopt general procedural and processing rules based on the rules governing PCS in Part 24 of our rules.[444]

(2) Comments

243. The SMR Advisory Group and AMTA support this approach.[445]

(3) Decision

244. We will generally use the application and payment procedures set forth in Part 1 of our rules, with certain modifications, for the Phase II 220 MHz service. A Public Notice announcing the auction will specify the licenses to be auctioned and the time and place of the auction in the event that mutually exclusive applications are filed. The Public Notice will also specify the method of competitive bidding to be used, applicable bid submission procedures, stopping rules, activity rules, the short-form filing deadline, and the upfront payment amounts.

245. Prior to the auction, the Wireless Telecommunications Bureau will also provide information about how to perform due diligence regarding incumbent licensees for applicants planning to participate in the auction. We encourage all potential bidders to do their own independent investigation regarding existing licensees' operations in each license area on which they intend to bid in order to maximize their success in the auction.

246. We will adopt the same bidding procedures used for MTA-based PCS licenses. Under these procedures, bidders will be able to submit bids from remote locations using special bidding software, or by telephone. We have established a schedule of fees that auction participants will be assessed for certain on-line computer services, bidding software, and Bidder Information Packages.[446] In addition, bidders will be permitted to bid electronically only if they

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[443] *Id.* at 253 (para. 131).

[444] *Id.* at 253 (para. 130).

[445] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[446] *See* Assessment and Collection of Charges for FCC Proprietary Remote Software Packages, On-Line Communications Services Charges, and Bidder's Information Packages in Connection With Auctionable Services, Report and Order, WT Docket No. 95-69, 10 FCC Rcd 10,769 (1995).
Specifically, the Commission has adopted a fee schedule for obtaining access to the Commission's database and remote bidding software packages. The remote access bidding software package is available for

have filed a short-form application electronically. Bidders who file their short-form applications manually may bid only telephonically. When submitting bids telephonically, bidders may utilize the Internet to learn the round-by-round results of the auction. Numerous online services provide Internet access at a reasonable cost. Bidders also may, at negligible cost, use a computerized bulletin board service, accessible by telephone lines, from which auction results can be downloaded to a personal computer.[447] The Commission intends to hold a seminar for prospective bidders to acquaint them with these bidding procedures.

b. *Short-Form Applications*

(1) Proposal

247. In the *Competitive Bidding Second Report and Order*, we determined that we should require only a short-form application prior to the auction.[448] In the *Third Notice*, we proposed to require applicants for nationwide, Regional, and EA 220 MHz licenses to file an initial short-form application (FCC Form 175) in order to qualify for competitive bidding.[449]

(2) Comments

248. All comments received on this issue support our proposal.[450]

(3) Decision

249. Section 309(j)(5) provides that no party may participate in an auction ``unless such bidder submits such information and assurances as the Commission may require to demonstrate that such bidder's application is acceptable for filing."[451] We adopt our proposal to require all applicants for Phase II 220 MHz licenses to submit FCC Form 175 in order to participate in the auction. As we indicated in the *Competitive Bidding Second Report and Order*, if we receive only one application that is acceptable for filing for a particular license, and thus there is no mutual exclusivity, we will issue a Public Notice cancelling the auction for that license and establish a date for the filing of a long-form application.[452]

$175.00. The charge for on-line remote access via a 900 number is $2.30 per minute. Bidders also may bid via telephone for no charge. There is no charge for the first Bidder Information Package requested, and a $16.00 fee for each additional package that is subsequently requested by the same party.

[447] *Id.* at 10,770 (para. 3). *See also MMDS Report and Order*, 10 FCC Rcd at 9640 (para. 107).

[448] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376 (para. 165).

[449] *Third Notice*, 11 FCC Rcd at 254 (para. 132).

[450] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[451] 47 U.S.C. § 309(j)(5).

[452] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376 (para. 165).

c. *Short-Form Application Amendments and Modifications*

(1) Proposal

250. In the *Third Notice*, to encourage maximum bidder participation in 220 MHz auctions, we proposed to provide applicants whose short-form applications are substantially complete, but contain minor errors or defects, the opportunity to correct their applications prior to the auction.[453] We proposed using procedures similar to those employed in previous auctions.[454]

(2) Comments

251. All comments received support this approach.[455]

(3) Decision

252. We will apply the provisions set forth in Part 1 of our rules governing amendments to and modifications of short-form applications to the 220 MHz service.[456] Upon reviewing the short-form applications, we will issue a Public Notice listing all defective applications. Applicants with minor defects in their applications will be given an opportunity to cure them and resubmit a corrected version.

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[453] *Third Notice*, 11 FCC Rcd at 254 (para. 134).

[454] *Id.*; *see also* Section 1.2105(b)(2) of the Commission's Rules, 47 C.F.R. § 1.2105(b)(2) (modification and dismissal of Form 175).

[455] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[456] *See* Section 1.2105 of the Commission's Rules, 47 C.F.R. § 1.2105.

d. *Upfront Payments*

(1) Proposal

253. In the *Third Notice*, we proposed to require 220 MHz auction participants to tender in advance to the Commission an upfront payment of $2,500 or $0.02 per MHz-pop, whichever is greater, for the largest combination of MHz-pops (bidding units) on which they anticipate bidding in any round. This upfront payment would define the upper bound of MHz-pops on which a bidder would be permitted to bid in any round.

(2) Comments

254. All responsive commenters support the Commission's proposed upfront payment formula.[457] Comtech, however, points out that the *Third Notice* is silent on whether all EA or Regional licenses in the same geographic area should command the same MHz-pop upfront payment.[458] In the rules for the 900 MHz SMR service, Comtech states, different upfront payment amounts were required for different channel blocks in the same geographic area depending upon whether the channels were licensed to an incumbent user. Comtech does not believe this is a sound approach. Instead, Comtech asserts, the same upfront payment amount should be required for all licenses for the same geographic area in order to maximize a bidder's flexibility during the auction.[459]

(3) Decision

255. In the *Competitive Bidding Second Report and Order*, we indicated that upfront payments should equal approximately five percent of the expected amounts of winning bids.[460] In general the license values in previous auctions have exceeded expectations. We also believe, based upon defaults occurring in the broadband PCS, IVDS, and MDS auctions, that, to guard against default, there is a need to obtain a higher payment upfront than the one proposed. We delegate to the Wireless Telecommunications Bureau the authority and discretion to determine an appropriate upfront payment for each license being auctioned, taking into account such factors as the population in each geographic license area, and the value of similar spectrum. We expect that the Bureau will follow the guidelines laid out in the *Competitive Bidding Second Report and Order* and establish upfront payments equal to approximately five percent of the expected amounts of winning bids for the various licenses.[461] In no event will the upfront payment for any license be less than $2,500, the minimum suggested in the *Competitive Bidding Second Report and Order* and the *Third Notice*, and the Bureau will retain the flexibility to modify this minimum if experience demonstrates that a higher amount would better deter speculative filings.

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[457] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[458] Comtech Comments at 15-16.

[459] *Id.*

[460] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2379 (para. 177).

[461] *Id*. at 2378-79 (paras. 171-177).

256. Prior to the 220 MHz auction, the Wireless Telecommunications Bureau will issue a Public Notice listing the upfront payment amounts required for the licenses to be auctioned. The number of bidding units determines the amount of upfront payment for each license. A prospective bidder must submit an upfront payment equal to the largest combination of bidding units on which the bidder anticipates being active in any single round. Although a bidder may file applications for every license being auctioned, the total upfront payment submitted by each applicant will determine the combinations on which the applicant will actually be permitted to be active in any single round of bidding. Upfront payments will be due by a date specified by Public Notice, but generally no later than 14 days before the scheduled auction.

e. *Down Payments and Full Payments*

(1) Proposal

257. In the *Third Notice*, we proposed to require the winning bidders for 220 MHz licenses (with the exception of winners that are small businesses) to supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s).[462]

(2) Comments

258. All responsive commenters support this proposal.[463]

(3) Decision

259. We will require all winning bidders, including small businesses and very small businesses,[464] to supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s). If the upfront payment already tendered by a winning bidder, after deducting any bid withdrawal and default payments due, amounts to 20 percent of its winning bids, no additional deposit will be required. If the upfront payment amount on deposit is greater than 20 percent of the winning bid amount after deducting any bid withdrawal and default payments due, the additional monies will be refunded.

260. We will require winning bidders, except small businesses and very small businesses, to submit the required down payment by cashier's check or wire transfer to our lock-box bank within ten business days following release of a Public Notice announcing the close of bidding.[465] All auction winners, except those eligible for an installment payment plan, will be required to make full payment of the balance of their winning bids within ten business days following release of a Public Notice mailed to the successful applicant that the Commission is prepared to award the license. The Commission generally will grant uncontested licenses within ten business days after

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[462] *Third Notice*, 11 FCC Rcd at 256-57 (para. 137).

[463] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[464] See paras. 289-295, *infra*.

[465] See para. 305, *infra*, regarding down payment deadlines for small businesses and very small businesses.

receiving full payment.

f. *Bid Withdrawal, Default, and Disqualification*

(1) Proposal

261. In the *Third Notice*, we proposed to adopt bid withdrawal, default, and disqualification rules for the Phase II 220 MHz service based on the procedures established in our general competitive bidding rules.[466] In the *Competitive Bidding Second Report and Order*, we noted that it is critically important to the success of our competitive bidding process that potential bidders understand that there will be a substantial monetary assessment imposed if they withdraw a high bid, are found not to be qualified to hold licenses, or default on payment of a balance due.[467]

(2) Comments

262. All commenters who addressed this issue agree with this approach.[468]

(3) Decision

263. We will apply the bid withdrawal, default, and disqualification provisions found in Part 1 of our rules to the 220 MHz auction. Any bidder that withdraws a high bid before the Commission declares bidding closed will be required to reimburse the Commission in the amount of the difference between its high bid and the amount of the ``winning bid'' the next time the license is offered, if this subsequent ``winning bid'' is lower than the withdrawn bid.[469] If a license is re-offered by auction, the ``winning bid'' refers to the high bid in the auction in which the license is re-offered. If a license is re-offered in the same auction, the ``winning bid'' refers to the high bid amount made subsequent to the withdrawal in that auction. If a license which is the subject of withdrawal or default is offered to the highest losing bidders in the initial auction, as opposed to being re-auctioned, the ``winning bid'' refers to the bid of the highest bidder who accepts the offer.[470]

264. After bidding closes, we will assess a defaulting auction winner an additional payment of three percent of the subsequent winning bid or three percent of the amount of the

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[466] *Third Notice*, 11 FCC Rcd at 257-59 (paras. 139-140).

[467] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2373-74 (para. 151).

[468] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[469] Section 1.2104(g)(1) of the Commission's Rules, 47 C.F.R. § 1.2104(g)(1).

[470] We recently addressed the issue of how our bid withdrawal provisions apply to bids that are mistakenly placed and withdrawn in a decision involving the 900 MHz SMR and broadband PCS C block auctions. *See* Atlanta Trunking Associates, Inc. and MAP Wireless L.L.C. Request to Waive Bid Withdrawal Payment Provisions, FCC 96-203, Order (released May 3, 1996) (summarized in 61 Fed. Reg. 25,807 (May 23, 1996)), *recon. pending*.

defaulting party's high bid, whichever is less.[471] This additional payment is designed to encourage bidders who wish to withdraw their bids to do so before bidding ceases. In the unlikely event that there is more than one bid withdrawal on the same license, we will hold each withdrawing bidder responsible for the difference between its withdrawn bid and the amount of the winning bid the next time the license is offered for auction.

265. If a bidder has withdrawn a bid or defaulted, but the amount of the default payment cannot yet be determined, the bidder will be required to make a deposit of up to 20 percent of the amount bid on the license. When it becomes possible to calculate and assess the default payment, any excess deposit will be refunded. Upfront payments will be applied to such deposits, and to bid withdrawal and default assessments due, before being applied toward the bidder's down payment on licenses the bidder has won and seeks to acquire.

266. If a default or disqualification involves gross misconduct, misrepresentation or bad faith by an applicant, the Commission may declare the applicant and its principals ineligible to bid in future auctions, and may take any other action that it deems necessary, including institution of proceedings to revoke any existing licenses held by the applicant.

[471] Section 1.2104(g)(2) of the Commission's Rules, 47 C.F.R. § 1.2104(g)(2).

g. *Long-Form Applications*

(1) Proposal

267. In the *Competitive Bidding Second Report and Order*, we established rules that require a winning bidder to submit a long-form application.[472] In the *Third Notice*, we proposed to apply these same procedures to the 220 MHz auction.[473]

(2) Comments

268. No comments were received regarding long-form applications.

(3) Decision

269. We will apply our Part 1 long-form procedures to the 220 MHz auction, as we proposed. A long-form application filed on FCC Form 600 must be filed by a date to be specified by Public Notice, generally within ten business days after the close of bidding. After the winning bidder's down payment and long-form application are received, we will review the application to determine if it is acceptable for filing. Upon acceptance for filing, we will issue a Public Notice announcing this fact, triggering the filing window for petitions to deny. If all petitions to deny are dismissed or denied, the license(s) will be granted to the auction winner.

h. *Petitions to Deny and Limitations on Settlements*

(1) Proposal

270. In the *Third Notice*, we proposed to adopt petition to deny procedures based on former Section 22.30 of our rules, which provided for procedures regarding oppositions to applications.[474] In addition, we proposed to adopt rules similar to former Section 22.943 of our rules, which provided for procedures regarding the withdrawal of applications,[475] to prevent the filing of speculative applications and pleadings designed to extract money from sincere 220 MHz license applicants.[476]

(2) Comments

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[472] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2383 (para. 199). *See also* Sections 1.2107(c) and 1.2107(d) of the Commission's Rules, 47 C.F.R. §§ 1.2107(c) and 1.2107(d).

[473] *Third Notice*, 11 FCC Rcd at 259-60 (para. 142).

[474] This provision was slightly modified and recodified as Section 22.130 of the Commission's Rules. *See Part 22 Rewrite Order*, 9 FCC Rcd 6599 (citing 47 C.F.R. § 22.130). The text of this provision is identical to that of the Part 90 provision 47 C.F.R. § 90.163, which is referenced in the rule adopted herein.

[475] This provision was recently amended and recodified as Section 22.129 of the Commission's Rules. *See Part 22 Rewrite Order*, 9 FCC Rcd at 6598.

[476] *Third Notice*, 11 FCC Rcd at 260 (para. 143).

271. No comments on this issue were received.

(3) Decision

272. We adopt our proposals regarding petitions to deny and limitations on settlements. A party filing a petition to deny against a 220 MHz license application will be required to demonstrate standing and meet all other applicable filing requirements. The restrictions in Section 90.162 (which replaced Section 22.943 for purposes of CMRS)[477] were established to prevent the filing of speculative applications and pleadings (or threats of the same) designed to extract money from 220 MHz license applicants. Thus, we will limit the consideration that an individual or entity is permitted to receive for agreeing to withdraw an application or a petition to deny to the legitimate and prudent expenses of the withdrawing applicant or petitioner.[478]

4. Regulatory Safeguards

a. *Anti-Collusion Rules*

(1) Proposal

273. In the *Competitive Bidding Second Report and Order*, as modified by the *Competitive Bidding Reconsideration Order*, we adopted special rules prohibiting collusive conduct in the context of competitive bidding.[479] In the *Third Notice*, we proposed to apply these rules to the Phase II 220 MHz service.[480] Generally, our rules limit parties who have applied for licenses in the same geographic license areas from agreeing to bidding strategies that divide the market according to their strategic interests and/or disadvantage other bidders.

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[477] *See also* Section 1.53 of the Commission's Rules, 47 C.F.R. § 1.53.

[478] *But see* Section 1.2105(c) of the Commission's Rules, 47 C.F.R. § 1.2105(c).

[479] *Competitive Bidding Second Report and Order* at 2386-88 (paras. 221-26); Implementation of Section 309(j) of the Communications Act--Competitive Bidding, Second Memorandum Opinion and Order, PP Docket No. 93-253, 9 FCC Rcd 7245, 7253-54 (paras. 48-53) (1994); Erratum, Mimeo No. 50228 (released Oct. 19, 1994).

[480] *Third Notice*, 11 FCC Rcd at 262-63 (paras. 147-149).

(2) Comments

274. The SMR Advisory Group supports our proposed anti-collusion rules for the Phase II 220 MHz service.[481] No other commenters addressed this issue.

(3) Decision

275. We will require Phase II 220 MHz service applicants to comply with the reporting requirements and rules prohibiting collusion embodied in Sections 1.2105 and 1.2107 of our rules.[482] We also note that even where the applicant discloses parties with whom it has reached an agreement on the short-form application, thereby permitting discussions with those parties, the applicant nevertheless is subject to existing antitrust laws.[483] Moreover, where specific instances of collusion in the competitive bidding process are alleged during the petition to deny process, we may conduct an investigation or refer such complaints to the United States Department of Justice for investigation. Bidders who are found to have violated the antitrust laws, in addition to any penalties they incur under the antitrust laws, or who are found to have violated the Commission's rules in connection with their participation in the auction process, may be subject to a variety of sanctions, including forfeiture of their down payment or their full bid amount, revocation of their license(s), and possible prohibition from participating in future auctions.[484]

b. ***Transfer Disclosure Requirements***

(1) Proposal

276. In Section 309(j)(4)(E) of the Communications Act, Congress directed the Commission to ``require such transfer disclosures and anti-trafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits."[485] In the *Competitive Bidding Second Report and Order*, the Commission adopted safeguards designed to ensure that the requirements of Section 309(j)(4)(E) are satisfied, including a transfer disclosure requirement for licenses obtained through the competitive bidding process.[486] In the *Third Notice*, we proposed to apply the transfer disclosure requirements contained in Section 1.2111(a) of our rules to all Phase II 220 MHz licenses obtained through the competitive bidding process.[487]

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[481] SMR Comments at 20 n.21.

[482] *See* Sections 1.2105(c) and 1.2107 of the Commission's Rules, 47 C.F.R. §§ 1.2105(c), 1.2107.

[483] *Competitive Bidding Fourth Memorandum Opinion and Order*, 9 FCC Rcd at 6869 n.134 (para. 59).

[484] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388 (para. 226).

[485] 47 U.S.C. § 309(j)(4)(E).

[486] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2384-88, 2394-95 (paras. 210-226, 258-265). *See also* Section 1.2111(a) of the Commission's Rules, 47 C.F.R. § 1.2111(a).

[487] *Third Notice*, 11 FCC Rcd at 260-61 (para. 145).

(2) Comments

277. The SMR Advisory Group supports our proposed transfer disclosure provisions.[488] No other commenters addressed this issue.

(3) Decision

278. We will apply Section 1.2111(a) to all Phase II 220 MHz licenses obtained through the competitive bidding process. We have also adopted specific rules that will apply solely to small business licensees, as discussed in subsequent sections. We will give particular scrutiny to auction winners who have not yet begun commercial service and who seek approval for a transfer of control or assignment of their licenses within three years after the initial license grant, so that we may determine if any unforeseen problems relating to unjust enrichment have occurred.

5. Treatment of Designated Entities

a. *Overview and Objectives*

279. Section 309(j) of the Communications Act provides that, in developing competitive bidding procedures, the Commission shall, *inter alia*, ``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."[489] Small businesses, rural telephone companies and businesses owned by minorities and/or women are collectively referred to as ``designated entities."[490] Section 309(j)(4)(A) provides that in order to promote such objectives, the Commission shall ``consider alternative payment schedules and methods of calculation, including lump sums or guaranteed installment payments, with or without royalty payments, or other schedules or methods . . . and combinations of such schedules and methods."[491] Section 309(j)(4)(D) also requires the Commission to ``ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services."[492]

280. To meet the statutory objective of providing opportunities for designated entities, we have employed a wide range of special provisions and eligibility criteria in other spectrum-

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[488] SMR Comments at 20 n.21.

[489] 47 U.S.C. § 309(j)(3)(B).

[490] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388 (para. 227).

[491] 47 U.S.C. § 309(j)(4)(A).

[492] *Id.* at § 309(j)(4)(D).

based services.[493] These measures have been designed to help designated entities overcome barriers to accessing capital and increase the likelihood that designated entities that win licenses in the auctions become strong competitors in the provision of wireless services. In the *Third Notice*, we sought comment on the type of designated entity provisions that should be incorporated into our competitive bidding procedures for the Phase II 220 MHz service.[494]

b. *Small Businesses*

(1) Proposal

281. In the *Third Notice*, we asked commenters to address: (1) the capital requirements of the 220 MHz service in comparison with other wireless services; (2) the degree to which designated entities currently provide 220 MHz service; and (3) whether designated entities and small businesses in particular face barriers to entry into the 220 MHz service based on lack of access to capital or other factors.[495] We tentatively concluded that it was appropriate to establish special provisions in our 220 MHz rules to promote and facilitate participation by small businesses.[496]

(2) Comments

282. AMTA indicates its support for the eligibility criteria proposed as part of our designated entity provisions.[497] In addition, AMTA states that our proposed bidding credits are reasonable in light of our desire to encourage small business participation in the 220 MHz

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[493] For instance, we determined that minority- and women-owned businesses in the nationwide narrowband PCS auction would receive a 25 percent bidding credit on certain channels. *Competitive Bidding Third Report and Order*, 9 FCC Rcd at 2970 (para. 72). In the regional narrowband PCS auction women- and minority-owned businesses were eligible for a 40 percent bidding credit on certain channels and small businesses were eligible for installment payments on all channels. *Id*. at 2978-79 (para. 87); Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Third Memorandum Opinion and Order and Further Notice of Proposed Rule Making, 10 FCC Rcd 175, 201 (para. 58) (1994) (*Competitive Bidding Third Memorandum Opinion and Order and Further Notice*). After the Supreme Court's decision in Adarand Constructors, Inc. v. Peña, 115 S.Ct. 2097 (1995), discussed at para. 284, *infra*, we amended our rules for various auctions, making them race- and gender-neutral and extending certain special provisions to small businesses. We took this approach to the broadband PCS C block and F block rules, for example. Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Sixth Report and Order, 11 FCC Rcd 136, 161 (para. 47) (1995) (*Competitive Bidding Sixth Report and Order)*; 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, 7834 (para. 18) (1996) (*D, E and F Block Report and Order*). We believe that minority- and women-owned entities will benefit from these provisions.

[494] *Third Notice*, 11 FCC Rcd at 267 (para. 159).

[495] *Id.* at 266-67 (paras. 158-59).

[496] *Id.* at 267 (para. 160).

[497] AMTA Comments at 21-22.

service.[498]

(3) Decision

283. Congress specifically cited the needs of small businesses in enacting Section 309(j), directing the Commission to promote economic opportunities for small businesses. The House Report states that the statutory provisions related to installment payments were intended to promote economic opportunity by ensuring that competitive bidding does not inadvertently favor incumbents with ``deep pockets" over new companies or start-ups.[499] While a number of small businesses are successfully participating in the 220 MHz industry, we conclude that it is appropriate to establish special provisions in our 220 MHz service rules to facilitate competitive bidding by small businesses. Construction of a 220 MHz system may require a significant amount of capital. Moreover, Congress made specific findings with regard to access to capital in the Small Business Credit and Business Opportunity Enhancement Act of 1992, finding that ``small business concerns which represent higher degrees of risk in financial markets than do large businesses, are experiencing increased difficulties in obtaining credit."[500] For these reasons, we believe that small businesses applying for 220 MHz licenses should be entitled to some type of bidding credit and should be allowed to pay their bids in installments.

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[498] *Id.*

[499] *See* H.R. Rep. No. 111, 103d Cong., First Sess. (1993) at 255.

[500] Small Business Credit and Business Opportunity Enhancement Act of 1992, Pub. L. No. 102-366, § 331(a)(3), 106 Stat. 1007.

c. *Minority- and Women-Owned Businesses*

(1) Proposal

284. In *Adarand Constructors, Inc. v. Peña,*[501] the Supreme Court held that ``all racial classifications . . . must be analyzed by a reviewing court under strict scrutiny."[502] As a result of the *Adarand* decision, any federal program that makes distinctions on the basis of race must serve a compelling governmental interest and must be narrowly tailored to serve that interest in order to pass constitutional muster.[503] Gender-based programs must satisfy intermediate scrutiny.[504] Under this standard, there must be an ``exceedingly persuasive justification" for a gender-based government provision and such a provision is constitutional if it serves an important governmental objective and is substantially related to achievement of that objective.[505] In the *Third Notice*, we emphasized that we had not concluded that race- and gender-based measures are unconstitutional or otherwise inappropriate for spectrum auctions we will hold in the future. At a minimum, however, we stated that we must build a thorough factual record concerning the participation of minorities and women in spectrum-based services to support race- and gender-based measures. We expressed our belief that a sufficient factual record does not exist with respect to spectrum-based services generally or the 220 MHz service specifically to sustain such measures under strict scrutiny.[506] We also indicated our uncertainty regarding the sufficiency of the record to sustain gender-based preferences under intermediate scrutiny.[507] In light of these considerations, we proposed to limit designated entity provisions for the 220 MHz service to small businesses.[508]

285. We requested comment, however, on the possibility that in addition to small business provisions, separate provisions for women- and minority-owned entities should be adopted for the 220 MHz service. We asked commenters to discuss whether the capital requirements of the 220 MHz service pose a barrier to entry by minorities and women and whether assisting women and minorities to overcome such a barrier, if it exists, would constitute a compelling government interest. In particular, we sought comment on the actual cost of acquisition, construction and operation of 220 MHz systems, and the proportion of existing 220 MHz businesses that are owned by women or minorities. We also sought comment on the analytical framework for establishing a history of past discrimination in the 220 MHz service industry and urged parties to submit evidence (statistical, documentary, anecdotal or otherwise) about patterns or cases of

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[501] 115 S. Ct. 2097 (1995).

[502] *Id*. at 2113.

[503] *Id.*

[504] United States v. Virginia, 116 S. Ct. 2263 (1996).

[505] *Id*. at 2275. *See* also J.E.B. v. Alabama ex. rel T.B., 511 U.S. 127 (1994); Mississippi Univ. for Women v. Hogan, 458 U.S. 718 (1982).

[506] *Third Notice*, 11 FCC Rcd at 266 (para. 158).

[507] *Id*.

[508] *Id.*

discrimination in this and related communications services. We sought comment on whether, assuming that a compelling governmental interest is established, separate provisions for women and minorities are necessary to further this interest and whether such provisions can be narrowly tailored to satisfy the standard of judicial review.[509]

(2) Comments

286. AMTA agrees with the Commission's determination that a sufficient record has not been developed to indicate that race-based measures would be sustained under the strict scrutiny standard adopted by the Supreme Court in *Adarand*.[510] AMTA is not aware of any compelling governmental interest that would be served by increased participation by women or minorities in the provision of 220 MHz service.[511] AMTA also is unable to provide the Commission with any particular evidence, other than general societal trends, linking past discrimination with either 220 MHz service specifically or communications services in general.[512] Comtech's comments generally concur with AMTA's position.[513] Comtech believes that the best way to promote opportunities for women and minorities is to make special provisions, such as bidding credits, reduced down payments, and installment payments, available to small businesses on all 220 MHz channel blocks.[514]

(3) Decision

287. In the Phase II 220 MHz service, as in other auctionable services, we are committed to meeting the statutory objectives of promoting economic opportunity and competition, of avoiding excessive concentrations of licenses, and of ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including businesses owned by members of minority groups and women. Commenters did not cite any evidence of specific discrimination for purposes of creating a record sufficient to support special provisions for minorities under the strict scrutiny standard. *Adarand* makes clear that only a record of discrimination against a particular racial group would support remedial measures designed to help that group. A record of discrimination against minorities in general may not be sufficient.[515] We are also concerned that our record would not support gender-based provisions under intermediate

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[509] *Id.* at 267 (para. 159).

[510] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[511] AMTA Comments at 21.

[512] *Id.* at 21-22.

[513] Comtech Comments at 16.

[514] *Id.*

[515] *Adarand*, 115 S. Ct. at 2113.

scrutiny.[516] Balancing our obligation to provide opportunities for women- and minority-owned businesses to participate in spectrum-based services against our statutory duties to facilitate the rapid delivery of new services to the American consumer and promote efficient use of the spectrum, we conclude that we should not delay the Phase II 220 MHz service auction for the amount of time it would take to adduce sufficient evidence to support race- and gender-based provisions. Moreover, we believe that most minority- and women-owned businesses will be able to take advantage of the specific provisions that we adopt for small businesses, as discussed *infra*.[517]

288. We note, too, that we have initiated a separate inquiry to gather information regarding barriers to entry faced by minority- and women-owned firms as well as small businesses.[518] We will also continue to track the rate of participation in our auctions by minority- and women-owned firms and evaluate this information with other data gathered with the goal of developing a record to support race- and gender-based provisions that will satisfy judicial scrutiny. If a sufficient record can be adduced, we will consider race- and gender-based provisions for future auctions. Finally, we are looking for other ways to reduce barriers to entry for women- and minority-owned businesses, such as extending partitioning and disaggregation of licenses to entities that do not currently qualify, an adjustment to our rules that may be helpful to small businesses generally.[519]

d. *Small Business Definition*

(1) Proposal

289. In the *Third Notice*, we sought comment regarding how to define small business for purposes of eligibility for bidding credits, installment payments, and reduced down payments.[520] For companies wanting to bid on nationwide and Regional licenses, we proposed to define small businesses as those entities with less than $15 million in average annual gross revenues for the preceding three years. For companies bidding for EA licenses, we proposed to define small businesses as those entities with less than $6 million in average annual gross revenues for the preceding three years.[521] We sought comment on whether different definitions of small business should be used for nationwide, Regional and EA licenses. We also sought comment regarding the treatment of gross revenues of affiliates and certain investors as it may affect the calculation of a

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[516] Telephone Electronics Corp. v. FCC, No. 95-1015, (D.C. Cir. Mar. 15, 1995) (order granting stay); United States v. Virginia, 116 S. Ct. at 2275.

[517] See paras. 298, 301, *infra*.

[518] Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses, Notice of Inquiry, GN Docket No. 96-113, 11 FCC Rcd 6280 (1996).

[519] See paras. 306-311, *infra*.

[520] *Third Notice*, 11 FCC Rcd at 271 (para. 170).

[521] *Id.*

small business's gross revenues and income.[522]

(2) Comments

290. AMTA and the SMR Advisory Group support our proposed two-tiered eligibility criteria for small businesses.[523] Metricom contends that because of the high costs associated with the build-out and operation of a Regional or nationwide system, the Commission should define small business for the Phase II 220 MHz nationwide and Regional licenses as an entity with $25 million or less in average gross revenues for the preceding three years, rather than $15 million or less.[524] Metricom also asserts that the Commission should modify its proposed attribution rules for small businesses so that small, publicly traded companies with widely dispersed voting power would not be ineligible.[525] Comtech believes that for purposes of determining whether an entity qualifies as a small business, revenues and assets of investors holding more than 25 percent of an applicant's voting stock and revenues and assets of all affiliates should be attributable to the applicant.[526]

(3) Decision

291. While the nationwide and Regional Phase II 220 MHz licenses will have higher build-out and operational costs than will the EA licenses, we believe, based upon our prior auction experience -- particularly in the 900 MHz SMR auction -- that it is likely that bidders will attempt to aggregate licenses across regions or EAs to establish their markets. Thus, for example, bidders may elect to aggregate EAs to create a regional market, rather than bid for the Regional license itself. In order to ensure the meaningful participation of small business entities in the auction, therefore, we have decided to adopt a two-tiered definition of small business with thresholds applicable across all three categories of license. This approach will give qualifying small businesses flexibility to bid for a Regional license or, on the other hand, elect to bid for several EAs, without having to choose which type of license to bid for prior to the start of the auction. For purposes of bidding on the nationwide, Regional, and EA licenses, therefore, we will define: (1) a very small business as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the three preceding years; and (2) a small business as an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $15 million for the three preceding years. Bidding credits will be determined, as discussed *infra*, based upon this two-tiered approach.

292. We disagree with Metricom that we should increase the gross revenues threshold amount to $25 million, because, based upon our experience in the 900 MHz SMR auction, such an increase would be far too inclusive. In the 900 MHz SMR auction, we established small

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[522] *Id.* at 272 (para. 173).

[523] AMTA Comments at 22; SMR Comments at 20.

[524] Metricom Comments at 13-14.

[525] *Id.* at 11.

[526] Comtech Comments at 18.

business definitions of $15 million and $3 million. Of the 128 applicants to participate in the auction, 101 qualified for the small business bidding credits. We believe the cost of building out a 220 MHz system most closely resembles the cost of a 900 MHz SMR system, that our experience in conducting the 900 MHz SMR auction indicates that our definitions of eligible small businesses were appropriate, and that it would substantially dilute the value of the small business preferences to increase the size of small businesses eligible for special bidding provisions. Therefore, we decline to adopt the Metricom proposal. We also conclude that, because the build-out costs of 220 MHz systems are similar to the build-out costs of 900 MHz SMR systems, it is appropriate to establish a definition of ``very small business" for the 220 MHz service that is consistent with the definition we adopted for the 900 MHz SMR service. We therefore decline to adopt a definition based on the $6 million we originally proposed to use for entities bidding on EA licenses.

293. For purposes of our Phase II 220 MHz small business definition, we will consider the gross revenues of the small business applicant, its affiliates, and certain investors in the applicant. Specifically, for purposes of determining small business status, we will attribute the gross revenues of all controlling principals in the small business applicant as well as the gross revenues of affiliates of the applicant. This is a much simpler approach than we utilized in broadband PCS since it does not require a ``control group."[527] We believe this simpler approach is appropriate because we do not anticipate that 220 MHz licensees will have the same sort of capital requirements as broadband PCS licensees. We also choose not to impose specific equity requirements on the controlling principals of entities that meet our small business definition. We will still require, however, that in order for an applicant to qualify as a small business, qualifying small business principals must maintain ``control" of the applicant, including both *de facto* and *de jure* control. For this purpose, we will borrow from certain SBA rules that are used to determine when a firm should be deemed an affiliate of a small business.[528] Typically, *de jure* control is evidenced by ownership of 50.1 percent of an entity's voting stock. *De facto* control is determined on a case-by-case basis. An entity must demonstrate at least the following indicia of control to establish that it retains *de facto* control of the applicant: (1) the entity constitutes or appoints more than 50 percent of the board of directors or partnership management committee; (2) the entity has authority to appoint, promote, demote and fire senior executives that control the day-to-day activities of the licensees; and (3) the entity plays an integral role in all major management decisions.[529] Moreover, we caution that while we are not imposing specific equity requirements on small business principals, the absence of significant equity could raise questions about whether the applicant qualifies as a *bona fide* small business.

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[527] A control group is defined as an entity, or a group of individuals or entities, that possesses *de jure* and *de facto* control of an applicant or licensee, such that (1) the entity and/or its members own unconditionally at least 50.1 percent of the total voting interests of a corporation; (2) the entity and/or its members receive at least 50.1 percent of the annual distribution of any dividends paid on the voting stock of a corporation; (3) in the event of dissolution or liquidation of a corporation, the entity and/or its members are entitled to receive 100 percent of the value of each share of stock in its possession and a percentage of the retained earnings of the concern that is equivalent to the amount of equity held in the corporation; and (4) the entity and/or its members have the right to receive dividends, profits, and regular and liquidating distributions from the business in proportion to its interest in the total equity of the applicant or licensee. Section 24.720(j) of the Commission's Rules, 47 C.F.R. § 24.720(j).

[528] *See* 13 C.F.R. § 121.401.

[529] *See Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 447 (para. 80).

294. As we did in broadband PCS, we will permit eligible small businesses to form consortia and not aggregate their gross revenues.[530] Additionally, a small corporation that has dispersed voting stock ownership and no controlling affiliates will not be required to aggregate with its own revenues the revenues of each shareholder for purposes of small business status.[531] Thus, we clarify that such an applicant may qualify -- even in the absence of identifiable control being held by particular investors.

295. We note also that applicants and licensees claiming eligibility as a small business or consortium of small businesses are subject to audits by the Commission. Selection for audit may be random, on information, or on the basis of other factors. Consent to such audit is part of the certification included in the short-form application (FCC Form 175). Such consent includes consent to the audit of the applicant's or licensee's books, documents, and other material, including accounting procedures and practices, regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are and remain accurate. Such consent also includes inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business or keeping records regarding licensed Phase II 220 MHz service, and will also include consent to the interview of principals, employees, customers, and suppliers of the applicant or licensee.

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[530] *See* Section 24.720(b) of the Commission's Rules, 47 C.F.R. § 24.720(b).

[531] *See Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 444-45 (para. 74); Section 24.720(m) of the Commission's Rules, 24 C.F.R. § 24.720(m) (defining ``publicly traded corporation with widely dispersed voting power'').

e. *Bidding Credits*

(1) Proposal

296. In the *Third Notice*, we proposed an approach that would be a hybrid of the bidding credit options offered to small businesses in the 900 MHz SMR auction and the nationwide narrowband PCS auction.[532] In order to ensure that small businesses have a realistic opportunity to acquire Phase II 220 MHz nationwide and Regional licenses, we proposed a 40 percent bidding credit for all qualified designated entities. For Phase II 220 MHz nationwide licenses, we proposed, *inter alia*, to offer this bidding credit on only one of the available channel blocks. For Phase II 220 MHz Regional licenses, we proposed to offer the bidding credit on all available channel blocks. Because we believed that the Phase II 220 MHz EA licenses are similar to the licenses offered in the 900 MHz SMR service, we proposed offering the same 10 percent bidding credit to qualified small businesses in the Phase II 220 MHz EA auction as we did in the 900 MHz SMR auction.[533]

(2) Comments

297. The SMR Advisory Group supports our proposed bidding credits.[534] Comtech supports our proposal to provide a 40 percent bidding credit on all Phase II 220 MHz Regional license blocks, but asserts that the 40 percent bidding credit should also be available for all nationwide blocks.[535]

(3) Decision

298. We believe that small businesses are in the best position to decide which blocks of licenses to bid on. As we stated *supra*, based upon our experience in previous auctions, it is very likely that bidders will attempt to aggregate Regional and EA licenses in the development of their bidding strategies, particularly if these licenses are auctioned together. Thus, we will establish bidding credits consistent with our two-tiered definition of small business that will apply to all three license groups. For very small businesses that, together with affiliates and controlling principals, have average gross revenues that are not more than $3 million for the three preceding years, we will give a 25 percent bidding credit, applicable for all three categories of licenses. Likewise, we will give small businesses that, together with affiliates and controlling principals, have average gross revenues that are not more than $15 million for the three preceding years, a bidding credit of ten percent, available for all three categories of Phase II 220 MHz licenses. While the 25 percent bidding credit is less than originally proposed for the nationwide and Regional licenses, we believe it is appropriate since we are now going to offer bidding credits generally for all channel blocks. We have also had favorable results in previous auctions with

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[532] *Third Notice*, 11 FCC Rcd at 268-69 (para. 162).

[533] *Id*. at 268-69 (paras. 161-165).

[534] SMR at 21. *See also* AMTA Comments at 22 (supporting bidding credits for regional and EA licenses); U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[535] Comtech Comments at 17.

bidding credits at this level or lower.[536]

f. *Installment Payments, Upfront Payments, and Down Payments*

(1) Proposal

299. In the *Third Notice*, we proposed the use of installment payments and reduced down payments for all small businesses bidding for any of the Phase II 220 MHz nationwide, Regional and EA licenses.[537] We also tentatively concluded that reduced upfront payments for small businesses would be unnecessary.[538]

(2) Comments

300. The SMR Advisory Group supports the use of installment payments and a reduced down payment to assist small businesses in participating in the Phase II 220 MHz auctions.[539]

(3) Decision

301. We will make installment payment plans available to small businesses that are winners in the 220 MHz auction. We recognize that small businesses, including those owned by women and minorities, face difficulties not encountered by other firms.[540] As we have also noted previously, allowing installment payments reduces the amount of private financing needed by prospective small business licensees and therefore mitigates the effect of limited access to capital by small businesses.[541] Licensees who qualify as small businesses or very small businesses in 220 MHz auctions will be entitled to pay their winning bid amount in quarterly installments over the term of the license with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. The rate for ten-year U.S. Treasury obligations will be determined by taking the coupon rate of interest on the ten-year U.S. Treasury notes most recently auctioned by the Treasury Department before licenses are conditionally granted. These licensees will be able to make interest-only payments for the first two years of the license term. Timely payment of all installments will be a condition of the license grant, and failure to make such timely payments will be grounds for revocation of the license.

302. We decline to adopt a second installment payment plan with a longer interest-only period for very small businesses with average gross revenues of not more than $3 million. We

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[536] *See, e.g.*, *Competitive Bidding Sixth Report and Order*, 11 FCC Rcd 136, 161 (para. 47) (1995) (25 percent for broadband PCS); *Competitive Bidding Seventh Report and Order*, 11 FCC Rcd at 268-69 (paras. 161-65) (15 and 10 percent for 900 MHz SMR).

[537] *Third Notice*, 11 FCC Rcd at 270-71 (paras. 166-169).

[538] *Id.* at 275 (para. 180).

[539] SMR Comments at 20.

[540] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2389 (para. 230).

[541] *Id*. at 2389 (paras. 231-232).

believe that the two-year interest-only period in the single plan we adopt here provides all small businesses with the appropriate level of financing to overcome difficulties in attracting capital.[542] Given that we are making additional financial assistance available to very small businesses in the form of a 25 percent bidding credit, we do not think a longer interest-only period is justified.

303. We also conclude that we should provide for late payment fees in connection with our installment payment plan for Phase II 220 MHz licensees. We stated in the *Third Notice* that timely payment of all installments would be a condition of the award of a license.[543] Therefore, when licensees are more than fifteen days late in their scheduled installment payments, we will charge a late payment fee equal to five percent of the amount of the past due payment. For example, if a $50,000 payment is due on June 1, then on June 16, $2,500 is due in addition to the payment. As we explained in adopting a late payment fee provision for broadband PCS F block auction winners, without such a fee licensees may not have adequate financial incentives to make installment payments on time and may attempt to maximize their cash flow at the government's expense by paying late. We note, too, that enhancing the fiscal accountability of entities receiving installment payment benefits is consistent with the purpose of the recently enacted Debt Collection Improvement Act of 1996. The five percent payment we adopt here is an approximation of late payment fees applied in typical commercial lending transactions. Payments will be applied in the following order: late charges, interest charges, and principal payments.

304. Our upfront payment rules are intended to deter speculation and ensure participation by sincere bidders only. We believe that substantial upfront payments are necessary for both large and small businesses to achieve these goals, and that it would be inappropriate to adopt reduced upfront payment provisions for small businesses participating in the Phase II 220 MHz service auction. We therefore decline to do so.

305. We also believe that small businesses should be required to pay a down payment of 20 percent, as we have required in our broadband PCS D, E, and F block auction. We believe that such a requirement is consistent with ensuring that winning bidders have the financial capability of building out their systems and will provide us with stronger assurance against defaults than a ten percent down payment. Increasing the amount of the bidder's funds at risk in the event of default discourages insincere bidding and therefore increases the likelihood that licenses are awarded to parties who are best able to serve the public. We also believe that a 20 percent down payment should cover the required payments in the unlikely event of default. Thus, small businesses will be required to bring their deposit up to ten percent of their winning bid within ten business days of the close of the auction. Prior to licensing, they will be required to pay an additional ten percent. Specific procedures for payment will be provided in a Public Notice.

g. *Partitioning*

(1) Proposal

306. As noted above, Congress directed the Commission to ensure that rural telephone

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[542] *See D, E and F Block Report and Order*, 11 FCC Rcd at 7845 (para. 44).

[543] *Third Notice*, 11 FCC Rcd at 271 (para. 168).

companies have the opportunity to participate in spectrum-based services.[544] In the *Third Notice*, we proposed a partitioning scheme for rural telephone companies similar to the one adopted for broadband PCS.[545] We also proposed that rural telephone companies be defined, as in the *Competitive Bidding Fifth Report and Order*, as local exchange carriers having 100,000 or fewer access lines, including all affiliates.[546] In addition, we sought comment on whether the Phase II 220 MHz service would benefit from the broader availability of geographic partitioning and channel disaggregation.[547]

(2) Comments

307. No commenters addressed these issues.

(3) Decision

308. Upon further analysis of the partitioning issues raised in the *Third Notice*, we have concluded that we will permit any holder of an EA, Regional or nationwide Phase II 220 MHz license to partition portions of its authorization and enter into contracts with eligible parties, allowing such parties to file long-form applications for the usable channels within the partitioned area.[548] In a Fifth Notice of Proposed Rulemaking, we will propose rules implementing the partitioning decision we adopt in this Order.

309. We have decided to take this action with respect to partitioning because of our conclusion that allowing holders of EA, Regional and nationwide Phase II 220 MHz licenses to partition their geographic service areas will facilitate the provision of services in small markets and rural areas. Partitioning will also furnish providers of Phase II 220 MHz service with operational flexibility that will serve to promote the most efficient use of the spectrum and encourage participation by a wide variety of service providers.

310. However, we will not, at this time, authorize spectrum disaggregation for the Phase II 220 MHz service. Instead, we will seek information regarding the technical feasibility and appropriateness of spectrum disaggregation for the Phase II 220 MHz service in the Fifth Notice of Proposed Rulemaking. We note, however, that a disaggregation mechanism could prove to be a useful vehicle for introducing a greater degree of flexibility with respect to the utilization of non-contiguous channels by Phase II 220 MHz licensees.

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[544] *See* 47 U.S.C. § 309(j)(4)(D).

[545] *Third Notice*, 11 FCC Rcd at 273-74 (para. 176) (citing *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5597-99 (para. 151)).

[546] *Id.*

[547] *Id.* at 274 (para. 177).

[548] We have previously adopted expanded partitioning rights for broadband PCS. 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, FCC 96-474 (released Dec. 20, 1996) (*Partitioning Report and Order*).

311. Providers of 220 MHz service will be permitted to acquire partitioned licenses in either of two ways: (1) by forming bidding consortia to participate in auctions, and then partitioning the licenses won among consortium members; and (2) by acquiring partitioned licenses from other licensees through private negotiation and agreement either before or after the auction. Each member of a consortium will be required to file a long-form application, following the auction, for its respective mutually agreed-upon geographic area. With regard to partitioning by small businesses, we seek comment in the Fifth Notice of Proposed Rulemaking regarding the treatment of bidding credits and installment payments. We also seek comment on other issues related to partitioning and disaggregation, such as whether to permit partitioning based on any license area defined by the parties.[549] In the event we receive applications requesting Commission consent to partitioning transfers prior to the adoption of rules based on the Fifth Notice of Proposed Rulemaking, action on such applications will be deferred.

h. *Transfer Restrictions and Unjust Enrichment Provisions*

(1) Proposal

312. The Commission's unjust enrichment provisions are integral to the success of the special provisions for designated entities in the various auctionable services. In the *Competitive Bidding Second Report and Order*, we adopted unjust enrichment provisions applicable specifically to designated entities. We established these provisions to deter speculation and participation in the licensing process by those who do not intend to offer service to the public, or who intend to use our provisions to obtain a license at a lower cost than they otherwise would have to pay, and later to sell it for a profit.[550]

313. In the *Third Notice*, we sought comment regarding the appropriate approach to preventing unjust enrichment in the Phase II 220 MHz service. We asked whether a holding period of three years after the license grant -- in which a licensee would be prohibited from voluntarily transferring or assigning its license to any other entity -- should be imposed on small businesses in the Phase II 220 MHz service. We also asked whether, in the alternative, we should allow small businesses to transfer or assign their licenses without restriction but require the reimbursement of bidding credits and payment of all principal due upon transfer to an ineligible entity.[551]

(2) Comments

314. No commenters addressed this issue.

(3) Decision

315. To ensure that large businesses do not become the unintended beneficiaries of measures meant for smaller firms, we will adopt unjust enrichment provisions similar to those

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[549] See, for example, the discussion at para. 325, *infra*.

[550] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2394 (para. 259); Section 1.2111 of the Commission's Rules, 47 C.F.R. § 1.2111.

[551] *Third Notice*, 11 FCC Rcd at 275 (para. 179).

adopted for narrowband PCS and the 900 MHz SMR service. Licensees seeking to transfer their licenses to entities which do not qualify as small businesses (or very small businesses seeking to transfer their licenses to small businesses or large companies), as a condition of approval of the transfer, must remit to the government a payment equal to a portion of the total value of the benefit conferred by the government. Thus, for example, a small business that received a bidding credit seeking to transfer or assign a license to an entity that does not qualify as a small business will be required to reimburse the government for the amount of the bidding credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before the transfer will be permitted. Similarly, a very small business that received a bidding credit seeking to transfer or assign a license to a small business that qualified for a lesser bidding credit will be required to reimburse the government for the difference between the amount of its bidding credit and the lesser credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before the transfer will be permitted. The amount of this payment will be reduced over time as follows: (1) a transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or, in the case of very small businesses transferring to small businesses, 100 percent of the difference between the bidding credit received by the former and the bidding credit for which the latter is eligible); (2) in year three of the license term the payment will be 75 percent; (3) in year four the payment will be 50 percent, and (4) in year five the payment will be 25 percent, after which there will be no required payment. These assessments will have to be paid to the U.S. Treasury as a condition of approval of the assignment or transfer.

316. In addition, if a licensee that qualifies for installment payments seeks to assign or transfer control of its license during its term to an entity that does not meet the small business or very small business definition, we will require payment of the remaining principal and any interest accrued through the date of assignment as a condition of the license assignment or transfer. Also, if an investor subsequently purchases an interest in the business and, as a result, the gross revenues of the business exceed the applicable financial caps, this unjust enrichment provision will apply. We will apply these payment requirements for the entire license term to ensure that small businesses will look first to other small businesses when deciding to transfer their licenses. However, we will not impose a holding period or other transfer restrictions on these licensees.

i. *Spectrum Set-Asides*

(1) Proposal

317. In the *Third Notice* we expressed our concern, based on our experience with PCS, that designated entities may have difficulty competing for Phase II 220 MHz licenses against large firms with significant financial resources. We tentatively concluded, however, that the relatively large number of licenses available and the relatively small spectrum allocations in the 220 MHz service should allow for extensive small business participation without the use of spectrum set-asides. In addition, we expressed our belief that the effectiveness of bidding credits, reduced down payments, and installment payments would not be diluted as in broadband PCS due to the smaller capital outlay anticipated for the 220 MHz service.[552]

(2) Comments

[552] *Id.* at 275 (para. 181).

318. No commenters addressed this issue.

(3) Decision

319. Because there will be both a large number and a large variety of licenses available in the Phase II 220 MHz auction, we will not adopt an entrepreneurs' block for the service. We conclude that small businesses will have a significant opportunity to compete for Phase II 220 MHz licenses, particularly given the special provisions that we have adopted for small businesses.

FIFTH NOTICE OF PROPOSED RULEMAKING

V. INTRODUCTION

320. In the Order we are adopting today we have concluded that we will permit any holder of a Phase II EA, Regional, or nationwide 220 MHz license[553] to partition portions of its authorization.[554] In the recent *Partitioning Report and Order* we expanded our rules to permit geographic partitioning and disaggregation for broadband PCS licensees, and we sought comment on geographic partitioning and spectrum disaggregation for cellular and General Wireless Communications Service (GWCS).[555] We have previously examined partitioning and disaggregation issues for other services on a service-by-service basis and we presently permit, or are seeking comment on, geographic partitioning and spectrum disaggregation for several services, *e.g.*, Multipoint Distribution Service (MDS),[556] GWCS,[557] 800 MHz Specialized Mobile Radio (SMR),[558] paging,[559] 38 GHz fixed point-to-point microwave,[560] 900 MHz SMR,[561] and the Wireless Communications Service (WCS).[562]

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[553] We refer to such licensees in this Fifth Notice as ``covered Phase II licensees." Phase II licensees that are not included in this definition are those Phase II licensees that are authorized to use Public Safety or EMRS channels.

[554] See para. 308, *supra*.

[555] 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, FCC 96-474, paras. 93-113 (released Dec. 20, 1996) (*Partitioning Report and Order*).

[556] Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, Report and Order, 10 FCC Rcd 9589, 9614-15 (paras. 46-47) (1995) (*MDS Report and Order*). Additionally, we impose unjust enrichment provisions for partitioning by small businesses to other businesses. *See* Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, Memorandum and Order on Reconsideration, 10 FCC Rcd 13821, 13833 (paras. 69-70) (1995).

[557] Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624, 665 (para. 105) (1995) (*GWCS Second Report and Order*), *recon. pending* (permitting rural telephone company partitioning).

[558] 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, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making, 11 FCC Rcd 1463, 1576, 1578, 1580 (paras. 253, 257, 264) (1995) (*800 MHz Second FNPRM*) (requesting comment on partitioning and disaggregation).

[559] Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, WT Docket No. 96-18, Second Report and Order and Further Notice of Proposed Rulemaking, FCC 97-59, paras. 192-94 (released February 24, 1997) (*Paging Report and Order*) (permitting all geographic area paging licensees to partition to any party eligible to be a paging licensee).

[560] 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, Notice of Proposed Rulemaking and Order, 11 FCC Rcd 4930, 4942-43, 4972-73, (paras. 24, 89-90) (1995) (*38 GHz NPRM*) (proposing partitioning for rural telephone companies, and

321. We believe that it is appropriate at this time to consider whether to permit full partitioning and disaggregation in the 220 MHz service. As we indicated in the *Partitioning Report and Order*, we found partitioning and disaggregation to be an effective means of providing broadband PCS licensees with the flexibility they need to tailor their service offerings to meet market demands.[563] In addition, the *Partitioning Report and Order* concluded that partitioning and disaggregation may be used to overcome entry barriers through the creation of smaller licenses that require less capital, thereby facilitating greater participation by small businesses, rural telephone companies, and minority- and female-owned businesses.[564] Therefore, we seek comment on whether these benefits similarly justify extension of partitioning rules to Phase I nationwide licensees, and establishment of disaggregation rules for the 220 MHz service.

VI. DISCUSSION

A. PARTITIONING AND DISAGGREGATION FOR 220 MHZ SERVICE

322. In the Order we adopt today, we have decided to allow partitioning of covered 220 MHz Phase II licenses.[565] In this Fifth Notice of Proposed Rulemaking we will seek comment as to how various requirements imposed on covered Phase II licensees (*e.g.*, construction requirements) may be modified if such licensees partition their authorization. We seek comment as to whether partitioning of 220 MHz Phase I nationwide licenses should be permitted in a manner similar to the rules for partitioning we have adopted for broadband PCS licensees. We tentatively conclude that we should not adopt partitioning for those Phase II licensees that are not covered Phase II licensees and non-nationwide Phase I licensees because such licenses are awarded on a site specific basis rather than for a geographic area. In addition, we seek comment as to whether all Phase I and Phase II 220 MHz licensees should be permitted to disaggregate their licensed spectrum. Since the 220 MHz service includes non-commercial uses, *e.g.*, use of

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seeking comment on whether partitioning and disaggregation should be available to all licensees in the 37 GHz band).

[561] 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, PR Docket No. 89-553, Second Order on Reconsideration and Seventh Report and Order, 11 FCC Rcd 2639, 2711-12 (paras. 177-179) (1995) (*900 MHz Second Reconsideration Order*) (adopting rural telephone company partitioning). On September 20, 1996, American Mobile Telecommunications Association, Inc., filed a Petition for Rulemaking requesting the Commission to expand its rules to permit partitioning to include all 900 MHz SMR licenses and to permit spectrum disaggregation. *See* American Mobile Telecommunications Association, Inc., Files Petition for Rulemaking to Expand Geographic Partitioning and Spectrum Disaggregation Provisions for 900 MHz SMR, Public Notice, DA 96-1654 (released Oct. 4, 1996). That Petition for Rulemaking was incorporated into the 800 MHz rulemaking proceeding, PR Docket No. 94-144, where similar partitioning and disaggregation issues are being considered. *Id.*

[562] *Wireless Communications Service Report and Order*, (paras. 96-103) (adopting partitioning and disaggregation for all licensees in the Wireless Communications Service).

[563] *Partitioning Report and Order* at para. 2.

[564] *Id.*

[565] See para. 308, *supra*.

spectrum for internal communication, by Public Safety and EMRS entities, we seek comment as to whether additional rules for partitioning and disaggregation should be adopted to address the use of the 220 MHz service for possible commercial and non-commercial services.

323. In the following paragraphs we seek comment on specific aspects of partitioning and disaggregation, which we will need to address if we decide to adopt partitioning for Phase I nationwide licensees and disaggregation for all 220 MHz licensees. For example, Phase I nationwide licensees are not currently permitted to assign or transfer a license before the licensee has constructed at least 40 percent of the proposed system.[566] We therefore seek comment as to whether a Phase I nationwide licensee should be permitted to partition or disaggregate prior to constructing at least 40 percent of its proposed system. We also seek comment as to whether there are technical or regulatory constraints unique to the 220 MHz service, such as, for example, the construction requirements for Phase I nationwide licensees, that would render partitioning or disaggregation impractical or administratively burdensome. Further, we recognize that there are special competitive bidding issues, similar to those raised in the broadband PCS context, that must be resolved if we permit partitioning and disaggregation for the 220 MHz service. We shall address those issues separately in paragraphs 343 and 344, *infra*.

B. AVAILABLE LICENSE AREA

324. In the *Partitioning Report and Order*, we found that allowing partitioning of broadband PCS licenses along any service area defined by the parties is the most logical approach.[567] We concluded that allowing the parties to define the partitioned PCS service area would allow licensees to design flexible and efficient partitioning agreements which would permit marketplace forces to determine the most suitable service areas. We also found that requiring PCS partitioning along county lines was too restrictive and might discourage partitioning.[568]

325. Covered Phase II 220 MHz service areas are based on either Economic Areas or Regional Areas.[569] In addition, there are Phase I and Phase II nationwide licenses in the 220 MHz service. We tentatively conclude that a flexible approach to partitioned areas, similar to the one we adopted for broadband PCS, is appropriate for the 220 MHz service. We therefore propose to permit partitioning of Phase I nationwide and covered Phase II 220 MHz licenses based on any license area defined by the parties. We seek comment on this proposal, and in particular on whether this proposal is consistent with our licensing of the 220 MHz service, and whether there are any technical or other issues unique to the 220 MHz service that might impede the adoption of a flexible approach to defining the partitioned license area.

C. MINIMUM OR MAXIMUM DISAGGREGATION STANDARDS

326. We seek comment as to whether, if we permit disaggregation in the 220 MHz

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[566] Section 90.709 of the Commission's Rules, 47 C.F.R. § 90.709.

[567] *Partitioning Report and Order* at para. 24.

[568] *Partitioning Report and Order* at paras. 23-24.

[569] See para. 80, *supra*.

service, minimum disaggregation standards are necessary. We seek to determine whether, given the unique characteristics of the 220 MHz service, technological and administrative considerations warrant the adoption of such standards. Licensees in this service may be authorized to use as few as one relatively narrow 5 kHz channel pair to as many as 15 channel pairs (*i.e.*, in a Phase II Regional authorization). We seek comment as to whether we should adopt standards which would be flexible enough to encourage disaggregation while providing a standard which is consistent with our technical rules and by which we would be able to track disaggregated spectrum and review disaggregation proposals in an expeditious fashion.

D. COMBINED PARTITIONING AND DISAGGREGATION

327. We seek comment regarding whether combined partitioning and disaggregation should be permitted for the 220 MHz service. By ``combined" partitioning and disaggregation we refer to circumstances in which a licensee would be authorized, for example, to obtain a license for a portion of a Region with only two channels. As another example, the licensee could obtain a license consisting of a partitioned portion of one or more other licenses held by other 220 MHz service providers *and* a disaggregated portion of one or more other licenses held by other 220 MHz service providers. We tentatively conclude that we should permit such combinations in order to provide parties the flexibility they need to respond to market forces and demands for service relevant to their particular locations and service offerings.

E. CONSTRUCTION REQUIREMENTS

328. In the Order we have adopted today we require that covered Phase II licensees implementing nationwide land mobile or paging systems must construct base stations that provide coverage to a composite area of at least 750,000 square kilometers or serve at least 37.5 percent of the population of the United States within five years of initial license grant, and that provide coverage to at least 1,500,000 square kilometers or at least 75 percent of the population within 10 years of the grant.[570] We have permitted covered Phase II licensees implementing fixed operations as part of their nationwide system to meet five- and 10-year ``substantial service" requirements as an alternative to meeting the above-mentioned construction requirements.[571]

329. We also have required EA and Regional licensees implementing land mobile or paging systems to construct base stations to provide coverage to at least one-third of the population of their EA or Region within five years of initial authorization and at least two-thirds of the population of their EA or Region within 10 years of initial authorization.[572] EA and Regional licensees that are offering fixed services as part of their EA and Regional system and those licensees who, because of the existence of one or more incumbent co-channel licensees in their EA or Region, can only provide service to populations outside of the areas served by these incumbents, have the option of providing a showing of substantial service.[573]

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[570] See para. 158, *supra*.

[571] *Id.*

[572] See para. 163, *supra*.

[573] *Id.*

330. In the *Partitioning Report and Order*, we adopted two construction options for partitioning for broadband PCS that give the parties the flexibility to choose how to apportion the responsibility to build out the partitioned license area, while also ensuring that the spectrum is used to the same degree that would have been required had the partitioning transaction not taken place.[574] Under the first option, the partitionee certifies that it will satisfy the same construction requirements as the original licensee.[575] The partitionee then must meet the prescribed service requirements in its partitioned area while the partitioner is responsible for meeting those requirements in the area it has retained.[576]

331. Under the second option, the original licensee certifies that it has already met or will meet its five-year construction requirement and that it will meet the 10-year construction requirement for the entire market involved.[577] Because the original licensee retains the responsibility for meeting the construction requirements for the entire market, the partitionee is permitted to comply with a less rigorous construction requirement[578] -- the partitionee must only meet a substantial service requirement for its partitioned license area at the end of the 10-year license term.[579]

332. In addition, we required that, at the five-year benchmark, broadband PCS partitionees must file supporting documentation showing compliance with the construction requirements.[580] The *Partitioning Report and Order* further provides that licensees failing to meet the service requirements will be subject to forfeiture, license cancellation, or other penalties.[581]

333. We seek comment as to whether we should adopt rules for covered Phase II licensees to establish dual construction options and attendant requirements for 220 MHz service partitioners and partitionees, similar to those we have adopted for broadband PCS. Since our Rules do not currently provide for a lesser construction requirement, we particularly seek comment as to the appropriateness of the lesser construction requirement for the second option.

334. With respect to disaggregation, the *Partitioning Report and Order* has established a

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[574] *See Partitioning Report and Order* at paras. 42-43. These objectives are the same in the case of the disaggregation rules adopted in the *Partitioning Report and Order*. *See id*. at para. 62.

[575] *Id.* at para. 42.

[576] *Id.*

[577] *Id.*

[578] *Id.*

[579] *Id.*

[580] *Id.* at para. 43.

[581] *Id.*

flexible approach similar to the rules adopted for partitioning.[582] This approach retains the underlying five- and 10-year construction requirements for the spectrum block as a whole, but then allows either party to the disaggregation agreement to meet the construction requirements with respect to its disaggregated portion of the license.[583] Thus:[584]

> [A] . . . licensee who disaggregates a portion of its spectrum may elect to retain responsibility for meeting the five and ten-year coverage requirements, or it may negotiate a transfer of this obligation to the disaggregatee. In either case, the rules ensure that the spectrum will be developed to at least the same degree that was required prior to disaggregation.

The rules we adopted in the *Partitioning Report and Order* also provide that parties seeking Commission approval of a disaggregation agreement must certify with respect to which party will assume responsibility for complying with the applicable five- and 10-year construction requirements.[585] Parties may also propose to share the responsibility for meeting these requirements.[586] As part of the Commission's public interest review under Section 310(d), the Commission will review each transaction to ensure that the party designated as responsible for meeting the construction requirements is a *bona fide* licensee and has the requisite ability and resources to meet the applicable requirements. If only one party agrees to take responsibility for meeting the construction requirement and later fails to comply with the requirement, then that party's license will be subject to forfeiture.[587] The license of the other party to the agreement, however, will not be affected by such a failure to comply.[588] If both parties agree to share the responsibility for meeting the construction requirements and either party later fails to do so, then both parties' licenses will be subject to forfeiture.[589]

335. We seek comment as to whether we should adopt rules for covered Phase II licensees similar to those disaggregation rules we have adopted for broadband PCS. Under such a certification approach, the disaggregating parties would be required to submit a certification, signed by both the disaggregator and disaggregatee, stating whether one or both of the parties will retain responsibility for meeting the five- and 10-year construction requirements for the 220 MHz market involved. If one party takes responsibility for meeting the construction requirements, then that party would be subject to license forfeiture for failing to meet the construction requirements,

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[582] *Id*. at para. 62.

[583] *Id.*

[584] *Id*.

[585] *Id*. at para. 63.

[586] *Id.*

[587] *Id.*

[588] *Id*.

[589] *Id*.

but such a failure would not affect the status of the other party's license. If both parties agree to share the responsibility for meeting the construction requirements, then both parties' licenses would be subject to forfeiture if either party fails to meet the construction requirements.

336. We are proposing rules for licensees other than covered Phase II licensees that differ from the approach we have taken in the *Partitioning Report and Order*. Phase I non-nationwide licensees and Phase II licensees authorized on Public Safety or EMRS channels are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base and mobile operations. Phase I non-nationwide licensees must construct their systems, having all specified base stations constructed with all channels, and place their systems in operation within eight months of the initial license grant.[590]

337. In the Order we adopted today we have concluded that Phase II licensees operating on Public Safety or EMRS channels must construct their authorized base station and place it in operation within 12 months of initial authorization.[591] Consistent with our decision in this Order that Phase I non-nationwide licensees will be permitted to begin primary fixed or paging operations only after meeting the requirement that they construct their land mobile base station and place it in operation or commence service,[592] we propose that Phase I non-nationwide licensees be permitted to disaggregate their licensed spectrum only after they have met the applicable construction deadline. We also propose that Phase II licensees operating on Public Safety or EMRS channels should be permitted to disaggregate their licensed spectrum only after they have met the applicable construction deadline. Since the construction deadline would therefore be met before any disaggregation is allowed, no construction requirement would be imposed on a disaggregatee. We seek comment on these proposals.

338. Phase I nationwide licensees are subject to a series of construction requirements set out in Section 90.725 of our Rules at two, four, six, and 10 years after the initial license grant.[593] These construction requirements are based on the licensee constructing base stations in specific percentages of geographic areas that the licensee designated in its application, including base stations in a specific number of urban areas listed in Section 90.741 of the Commission's Rules.[594] Unlike the broadband PCS rules, which do not dictate a minimum level of spectrum usage by the original PCS licensee,[595] our construction rules for Phase I nationwide licensees require that the constructed base stations have a minimum of five nationwide channels. We tentatively conclude, therefore, that a disaggregatee obtaining spectrum from a Phase I nationwide licensee should be required to meet the same construction requirements as the original licensee. The disaggregatee would be required to meet the same two-, four-, six-, and 10-year requirements as the original

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[590] Section 90.725(f) of the Commission's Rules, 47 C.F.R. § 90.725(f). The construction deadline was extended as outlined at para. 22 n.17, *supra*.

[591] See para. 166, *supra*.

[592] See para. 139, *supra*.

[593] Section 90.725 of the Commission's Rules, 47 C.F.R. § 90.725.

[594] Section 90.741 of the Commission's Rules, 47 C.F.R. § 90.741.

[595] *See Partitioning Report and Order* at para. 62.

licensee for the spectrum it obtains, while the original licensee would be responsible for meeting the requirements for the spectrum it retains. We seek comment on this tentative conclusion.

339. Since the construction requirements for Phase I nationwide licensees differ so markedly from those pertaining to Phase II nationwide licensees or licensees in other services such as broadband PCS or GWCS, it does not appear, as a practical matter, to be possible to have similar construction options for Phase I nationwide partitionees. For example, a Phase I partitionee may never be able to meet the requirement of Section 90.725(a)(2) that, within four years, it construct base stations in at least 28 of the 100 urban areas listed in Section 90.741, since a Phase I partitionee may not even have that many urban areas in its partitioned area. Thus, the first option adopted in the *Partitioning Report and Order*, under which the partitionee certifies that it will satisfy the same construction requirements as the original license, does not appear to be a viable mechanism in the case of Phase I nationwide licensees in the 220 MHz service.

340. Similarly, the original licensee may not have 28 urban areas remaining after it partitions its license. Thus, the second option adopted in the *Partitioning Report and Order*, under which the original licensee certifies that it has met or will meet all of the construction requirements, would likewise not be possible. Given the difficulties created by these construction requirements, we seek comment on whether partitioning of Phase I nationwide licenses should be permitted. If such partitioning is allowed, we seek comment on what construction requirements could be imposed on the original licensee and any partitionees. In light of the unique construction requirements imposed on Phase I nationwide licensees, we also seek comment on what type of construction requirements should be imposed on Phase I licensees and their partitionees and disaggregatees if a Phase I nationwide license is both partitioned and disaggregated.

F. LICENSE TERM

341. Phase I non-nationwide 220 MHz licenses are granted for five-year terms and Phase I nationwide 220 MHz licenses are granted for a period of 10 years.[596] In the Order we have adopted today we established a 10-year license term for both nationwide[597] and non-nationwide Phase II 220 MHz licenses.[598] We further found that all Phase I and Phase II licensees seeking renewal of their authorizations must meet the requirements for license renewal identical to those provided in Section 22.940 of our rules.[599] Therefore, 220 MHz licensees that demonstrate that they have provided substantial service during their past license terms and have substantially complied with the Commission's rules, policies, and the Communications Act, will be granted a renewal expectancy.[600]

342. In the *Partitioning Report and Order*, we found that allowing parties acquiring a

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[596] *See* Section 90.149 of the Commission's Rules, 47 C.F.R. § 90.149. *See also CMRS Third Report and Order*, 9 FCC Rcd 8157 (para. 386) (modifying 47 C.F.R. § 90.149 (1994)).

[597] See para. 54, *supra*.

[598] See para. 133, *supra*.

[599] Section 22.940 of the Commission's Rules, 47 C.F.R. § 22.940.

[600] *See* Section 22.940(a) of the Commission's Rules, 47 C.F.R. § 22.940(a).

partitioned license or disaggregated spectrum to ``re-start'' the license term from the date of the grant of the partial assignment application could allow parties to circumvent our established license term rules and unnecessarily delay service.[601] We seek comment as to whether our 220 MHz rules should similarly provide that parties obtaining partitioned 220 MHz licenses or disaggregated spectrum hold their license for the remainder of the original licensee's five- or 10-year license term. In addition, we seek comment as to whether 220 MHz partitionees and disaggregatees should be afforded the same renewal expectancy as other 220 MHz licensees. We tentatively conclude that limiting the license term of the partitionee or disaggregatee is necessary to ensure that there is maximum incentive for parties to pursue available spectrum as quickly as practicable.

G. COMPETITIVE BIDDING ISSUES

343. Competitive bidding issues similar to those in broadband PCS arise in the context of 220 MHz service partitioning and disaggregation. Our competitive bidding rules for the covered Phase II 220 MHz service include provisions for installment payments and bidding credits for small businesses and very small businesses.[602] We also adopted rules to prevent unjust enrichment by such entities that seek to transfer licenses obtained through use of one of these special benefits.[603] We tentatively conclude that the Phase II 220 MHz service partitionees and disaggregatees that would qualify as small businesses or very small businesses should be permitted to pay their pro rata share of the remaining government obligation through installment payments. We seek comment on this tentative conclusion. We further invite comment as to the exact mechanisms for apportioning the remaining government obligation between the parties and whether there are any unique circumstances that would make devising such a scheme for the Phase II 220 MHz service more difficult than for broadband PCS. Since Phase II 220 MHz service areas are allotted on a geographic basis, in a manner similar to broadband PCS, we propose using population as the objective measure to calculate the relative value of the partitioned area and amount of spectrum disaggregated as the objective measure for disaggregation, and we seek comment on this proposal.

344. We seek comment on whether to apply unjust enrichment rules to small or very small business Phase II 220 MHz licensees that partition or disaggregate to non-small businesses. Commenters should address how to calculate unjust enrichment payments for designated entity Phase II 220 MHz service licensees paying through installment payments and those that were awarded bidding credits that partition or disaggregate to non-small businesses. We ask that commenters also address how we should calculate unjust enrichment payments in situations where a very small business partitions or disaggregates to a small business that qualifies for a lower bidding credit. Commenters should address whether the unjust enrichment payments should be calculated on a proportional basis, using population of the partitioned area and amount of spectrum disaggregated as the objective measures. We propose using methods similar to those adopted for broadband PCS for calculating the amount of the unjust enrichment payments that

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[601] *Partitioning Report and Order* at para. 77.

[602] See paras. 296-303, *supra*.

[603] See paras. 312-316, *supra*.

must be paid in such circumstances, and we seek comment on this proposal.[604]

H. LICENSING ISSUES

345. Section 90.709(d) of our Rules currently forbids partial assignment of Phase I 220 MHz licenses.[605] However, since there are existing partial assignment rules for commercial mobile radio stations in Part 90,[606] we propose utilizing partial assignment procedures, similar to those adopted for broadband PCS, to review 220 MHz partitioning and disaggregation transactions. Partial assignment applications would be placed on public notice and subject to petitions to deny. The parties would be required to submit an FCC Form 490, an FCC Form 600 and, if necessary, an FCC Form 430, together as one package under cover of the FCC Form 490. We invite comment on whether any additional procedures are necessary for reviewing these applications. We also seek comment on how licensing issues should be addressed for non-commercial mobile radio stations in the 220 MHz service with respect to partial assignments.

VII. PROCEDURAL MATTERS

346. This is a non-restricted notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission Rules.[607]

347. Pursuant to applicable procedures set forth in Section 1.415 and 1.419 of the Commission's Rules,[608] interested parties may file comments on or before **April 15, 1997**, and reply comments on or before **April 30, 1997**. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington D.C. 20554. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained in the Fifth Notice of Proposed Rulemaking or the Third Report and Order should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W. Washington, D.C. 20554, or via the Internet to dconway@fcc.gov. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor: International Transcription Service, Inc. (ITS, Inc.), 2100 M Street, N.W., Suite 140, Washington, D.C. 20037, (202) 857-3800.

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[604] *Partitioning Report and Order* at paras. 34-35.

[605] Section 90.709(d) of the Commission's Rules, 47 C.F.R. § 90.709(d).

[606] *See* Section 90.153 of the Commission's Rules, 47 C.F.R. § 90.153.

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

[608] 47 C.F.R. §§ 1.415, 1.419.

Initial and Final Paperwork Reduction Act of 1995 Analyses

348. This Third Report and Order and Fifth Notice of Proposed Rulemaking contains either a proposed or modified information collection. As part of its continuing effort to reduce paperwork burdens, the Commission invites the general public to take this opportunity to comment on the information collections contained in both the Third Report and Order and the Fifth Notice of Proposed Rulemaking as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and Agency comments on the information collections contained in the Fifth Notice of Proposed Rulemaking are due 60 days after publication of the summary of the Fifth Notice of Proposed Rulemaking in the Federal Register. Public comments on the information collections contained in the Third Report and Order are due 60 days after publication of the summary of the Third Report and Order in the Federal Register. These comments should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, D.C. 20554, or via the Internet to dconway@fcc.gov. Comments on the information collections contained in both the Third Report and Order and the Fifth Notice of Proposed Rulemaking should address: (a) 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; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

Initial and Final Regulatory Flexibility Act Analyses

349. As required by the Regulatory Flexibility Act of 1980, Pub. L. No. 96-354, 94 Stat. 1164, as amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847, 5 U.S.C. § 601 et seq., the Commission has prepared a Final Regulatory Flexibility Analysis of the expected impact of the rule changes in this document on small entities. The Final Regulatory Flexibility Analysis is set forth in Appendix A. In addition, as required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 an Initial Regulatory Flexibility Analysis of the expected impact on small entities of the proposals suggested in this document is contained in Appendix F. Written public comments are requested on the Initial Regulatory Flexibility Analysis. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the Notice portion of this decision, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Secretary shall send a copy of this Third Report and Order and Fifth Notice of Proposed Rulemaking, including the Initial and Final Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act.[609]

VIII. ORDERING CLAUSES

350. Authority for issuance of this Third Report and Order is contained in Sections 4(i), 303(r), 309(j), and 332 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 303(r), 309(j),

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[609] Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. Section 601 *et seq.* (1980).

332.

351. Accordingly, IT IS ORDERED that Part 90 of the Commission's Rules, 47 C.F.R. Part 90, IS AMENDED as set forth in Appendix B, effective 140 days after publication of this Order in the Federal Register.

352. IT IS FURTHER ORDERED that the Petitions for Reconsideration filed by Columbia Cellular Corporation, PLMRS Narrowband Corp. and 360 Mobile Data Joint Venture on August 6, 1993, ARE DISMISSED as moot.

353. IT IS FURTHER ORDERED that, pursuant to 47 U.S.C. § 155(c), the Chief, Wireless Telecommunications Bureau, IS GRANTED DELEGATED AUTHORITY to implement and modify auction procedures in the Phase II 220 MHz service, including the general design and timing of an auction; the number and grouping of authorizations to be offered in any particular auction; the manner of submitting bids; the amount of minimum opening bids and bid increments; activity and stopping rules; and application and payment requirements, including the amount of upfront payments; and to announce such procedures by Public Notice.

354. IT IS FURTHER ORDERED that all pending nationwide and non-nationwide 220 MHz applications, together with the appropriate filing fees, will be returned to applicants, without prejudice.

355. IT IS FURTHER ORDERED that a Public Notice will be issued announcing the acceptance of applications for authorizations on Channels 161-170 and Channels 181-185 after 140 days after publication of this Order in the Federal Register.

356. IT IS FURTHER ORDERED that applications for temporary, secondary authorizations for geophysical telemetry operations will be accepted beginning 140 days after publication of this Order in the Federal Register.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

Separate Statement
of
Commissioner Susan Ness

Re: *Use of the 220-222 MHz Band, PR Docket No. 89-552*

I write separately to repeat my long-held view that the Commission should not change its rules on the eve of a spectrum auction.

I strongly support the policy, embodied in the Omnibus Balanced Budget Act of 1993, of assigning radio spectrum through the use of auctions. But reliance on market mechanisms only works if one pays attention to the realities of the market. Business people don't just show up at an auction, ready to bid; first, they need to formulate business plans and secure financing.

Changing the rules for the service on the eve of the auction throws off business plans. While I understand how circumstances have changed and have no particular objection on the merits to eliminating, on our own initiative, the spectrum efficiency standard for 220 MHz services, I also see no compelling need to eliminate the efficiency standard at the eleventh hour or to further complicate the already tortured history of this band.

With or without a prescribed efficiency standard, as a result of the competitive bidding process, licensees will have an incentive to be efficient in their use of the spectrum. But this change in our rules will inevitably necessitate reevaluation of business plans by potential bidders. Some who planned to bid may no longer be interested. Some who planned not to bid may suddenly wish to, but lack the time to formulate a business plan and to secure financial backing.

The only thing worse than changing the rules of the game right before it is played is to change the rules after the fact, as has also occurred with distressing frequency. Of course, new facts or new thinking may justify adjustments, but at a minimum we need to think carefully about the effects of any changes on the operation of market mechanisms. In my view, we can and should do more to avoid auction-eve -- or post-auction -- changes in our rules.

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of

Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service	)	PR Docket No. 89-552 RM-8506
Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services	)	GN Docket No. 93-252
Implementation of Section 309(j) of the Communications Act -- Competitive Bidding	)	PP Docket No. 93-253

THIRD REPORT AND ORDER; FIFTH NOTICE OF PROPOSED RULEMAKING

Adopted: February 19, 1997 **Released: March 12, 1997**

Comments Due: April 15, 1997 Reply Comments Due: April 30, 1997

By the Commission: Chairman Hundt approving in part, dissenting in part, and issuing a statement; Commissioners Ness and Chong issuing separate statements.

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THIRD REPORT AND ORDER

I. INTRODUCTION

1. By this Third Report and Order, we adopt rules to govern the future operation and licensing of the 220-222 MHz band (220 MHz service). This action is taken as part of our continuing implementation of the regulatory framework for mobile radio services enacted by Congress in Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, which amended Sections 3(n) and 332 of the Communications Act of 1934.[1] As part of the implementation of the Budget Act, we initiated a series of rulemaking proceedings to provide guidelines for the regulation of commercial and private mobile radio services, including the 220 MHz service, consistent with the policy of regulatory symmetry as reflected in the revisions to Section 332 of the Act.

2. One of our actions resulting from these proceedings, the *CMRS Third Report and Order* in GN Docket No. 93-252,[2] addressed a variety of issues relating to the licensing of the 220 MHz service, but deferred a detailed examination of that service to a separate rulemaking proceeding. That proceeding was initiated by the adoption of the Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking in PR Docket No. 89-552 (*Third Notice*),[3] where we proposed a new licensing plan for 220 MHz service. The Third Report and Order adopted today generally establishes that proposal for the Phase II[4] licensing of the 220-222 MHz band, with some modifications that we discuss in the following sections.

3. As stated in the *Third Notice*, our goal is to establish a flexible regulatory framework that will allow for the efficient licensing of the 220-222 MHz band, eliminate unnecessary regulatory burdens on both Phase I and Phase II licensees, and enhance the competitive potential of the 220 MHz service in the mobile services marketplace.[5] We believe that the adoption of the rules set forth in today's Order will enable us to continue to promote the development of

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[1] Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, §§ 6002(b)(2)(A), 6002(b)(2)(B), 107 Stat. 312, 392 (1993) (Budget Act). Section 3(n) of the Communications Act has been redesignated as Section 3(14). *See* Section 3(c)(4) of the Telecommunications Act of 1996. The reference to former Section 3(n) in Section 332 has been changed to a reference to Section 3. *See* Section 3(d)(2) of the Telecommunications Act of 1996.

[2] Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Third Report and Order, 9 FCC Rcd 7988 (1994) (*CMRS Third Report and Order*), *recon. pending*.

[3] Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, and Implementation of Section 309(j) of the Communications Act--Competitive Bidding, 220-222 MHz, PP Docket No. 93-253, Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, 11 FCC Rcd 188 (1995) (*Third Notice*).

[4] We refer herein to licenses granted pursuant to this new framework as Phase II licenses. Licenses granted under the rules that existed prior to the adoption of this Order are referred to herein as Phase I licenses.

[5] *Third Notice*, 11 FCC Rcd at 193 (para. 2).

advanced radio technologies, while making the widest variety of mobile communications services available to the American public.

4. In the Fifth Notice of Proposed Rulemaking, we propose to permit Phase I nationwide licensees to partition their licenses. We also seek comment on whether to permit and how to implement spectrum disaggregation for both Phase I and Phase II licensees.

II. EXECUTIVE SUMMARY

5. The following is a summary of the rules adopted in this Order for Phase II licensing of the 220-222 MHz band:

A. NATIONWIDE LICENSING

6. We will return the pending, mutually exclusive applications for the four non-commercial, Phase I nationwide licenses and adopt a new licensing procedure for the 30 channels associated with these licenses. The Phase II licensing of these channels will be governed by the following rules:

- The 30 channels will be licensed on a nationwide basis to all applicants -- *i.e.*, applicants that intend to use the channels to offer commercial services as well as applicants that intend to use the channels for their private, internal use.

- The channels will be assigned, in the form of three 10-channel authorizations, through competitive bidding, based upon our conclusion that the principal use of the spectrum will be for the provision of for-profit, subscriber-based services.

B. NON-NATIONWIDE LICENSING

7. We will assign Phase II, non-nationwide 220 MHz channels in the following manner:

- Fifty channels in 175 geographic areas defined as Economic Areas by the Bureau of Economic Analysis, Department of Commerce (``EA licenses'') and 75 channels in the geographic areas defined by six ``Regional Economic Area Groupings'' (``Regional licenses'') as follows:

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN

EA BLOCK	CHANNELS
A: Channel Groups[6] 2, 13	10
B: Channel Groups 3, 16	10
C: Channel Groups 5, 18	10
D: Channel Groups 8, 19	10
E: Channels 171-180	10
TOTAL	**50**

REGIONAL BLOCK	CHANNELS
F: Channel Groups 1, 6, 11	15
G: Channel Groups 4, 9, 14	15
H: Channel Groups 7, 12, 17	15
I: Channel Groups 10, 15, 20	15
J: Channels 186-200	15
TOTAL	**75**

- We make these channels available to all eligible applicants, and we resolve mutually exclusive applications for these channels through competitive bidding.
- We permit EA and Regional licensees to operate stations anywhere within their geographic borders, provided that their transmissions do not exceed a predicted field strength of 38 dBuV/m at their border, and they protect the base stations of Phase I licensees in accordance with the existing co-channel separation criteria for 220 MHz stations.
- We provide a 10-year license term for EA and Regional licensees, and we require EA and Regional licensees to meet five- and ten-year construction benchmarks.
- We continue to assign, on a single-station basis, 10 channels to applicants eligible in the Public Safety Radio Services (PSRS) and five channels to applicants eligible in the Emergency Medical Radio Service (EMRS) to meet internal communications needs.
- We assign five of the 10 PSRS channel pairs on a shared basis to all public safety eligibles.

[6] The Channel Groups indicated in the allocation plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3" *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

In so doing, we enable public safety licensees within a particular geographic area to share these channels and coordinate the location and operation of base stations on these channels, which will enable them to communicate more effectively with each other during emergencies.

- We assign channels in the PSRS and EMRS pools on a first-come, first-served basis and resolve mutually exclusive applications by random selection procedures.

C. PAGING OPERATIONS; CHANNEL AGGREGATION

- We allow Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees to operate paging systems without the requirement that such use be on an ancillary basis to land mobile operations.

- We allow Phase I and Phase II, nationwide and non-nationwide 220 MHz licensees, to aggregate any of their contiguous 5 kHz channels and operate on channels wider than 5 kHz, so long as they comply with the prescribed spectrum efficiency standard.

D. OTHER ISSUES

1. Technical and Operational Matters

8. We modify our existing 220 MHz rules with regard to certain technical and operational matters as follows:

- We allow Phase I and Phase II, nationwide and non-nationwide, non-CMRS 220 MHz licensees to operate fixed stations without the requirement that such use be on an ancillary basis to land mobile operations.

- We allow licensees using the 220-222 MHz band for geophysical telemetry operations to operate fixed stations on a temporary basis, without the requirement that such use be ancillary to land mobile operations, and on a secondary basis to Phase I and Phase II licensees authorized to operate on 220 MHz channels on a primary basis.

2. Application Procedures

9. We adopt the following procedures and definitions for initial applications, amended applications, applications to modify authorizations, and renewal of authorizations:

- We define initial applications for 220 MHz licenses as applications for the nationwide, EA, and Regional licenses to be assigned in Phase II.

- We adopt the same procedures for amending applications and modifying authorizations for Phase II 220 MHz licenses that are established for other Part 90 Commercial Mobile Radio Services (CMRS).

- We adopt the same procedures for obtaining grants of Special Temporary Authority (STA) for Phase II 220 MHz licenses that are established for other Part 90 CMRS services.

- We adopt for all 220 MHz licensees the renewal standards adopted in the *CMRS Third Report and Order* for Part 90 CMRS services.

E. COMPETITIVE BIDDING RULES

1. Competitive Bidding Design

10. We will award a total of three nationwide, 30 Regional, and 875 EA licenses in the Phase II 220 MHz service. We will use a single simultaneous multiple round auction to award these licenses. Both incumbents and new entrants are eligible to bid for all nationwide, Regional, and EA licenses.

11. The Wireless Telecommunications Bureau will, by Public Notice prior to the auction, announce guidelines for bid increments, *i.e.*, the amount or percentage by which the bid must be raised above the previous round's high bid in order to be accepted as a valid bid in the current bidding round. We will use a simultaneous stopping rule and the Milgrom-Wilson activity rule for this auction. The timing and duration of auction rounds will be determined by the Wireless Telecommunications Bureau and announced by Public Notice or by announcement during the auction. We will use bid withdrawal and default rules for this auction similar to those used in the broadband PCS auctions.

2. Procedural and Payment Rules

12. Applicants will apply for the Phase II 220 MHz auction by filing a short-form application (FCC Form 175), indicating the markets and spectrum blocks for which they seek to apply, and paying an upfront payment. The Wireless Telecommunications Bureau will set the amount of the upfront payment taking into account such factors as the population in each geographic license area and the value of similar spectrum.

13. At the conclusion of the auction, winning bidders must submit their down payments and file their long-form applications (FCC Form 600). The down payments required of all winning bidders will be 20 percent of their winning bids.

3. Regulatory Safeguards

14. The Phase II 220 MHz auction will be subject to regulatory safeguards to prevent applicants from colluding during the auction or obtaining unjust enrichment from subsequent transfers of their licenses.

4. Designated Entities

15. We will not establish an entrepreneurs' block for the 220 MHz band. Instead small businesses will be eligible for bidding credits and an installment payment plan. For purposes of determining small business status, we will attribute the gross revenues of all controlling principals in the small business applicant as well as the gross revenues of affiliates of the applicant. We define two categories of small businesses: (1) a small business is an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years; and (2) a very small business is an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $3 million for the

preceding three years.

16. Very small businesses meeting the not more than $3 million benchmark are eligible for a 25 percent bidding credit on any Phase II 220 MHz license; small businesses meeting the not more than $15 million benchmark are eligible for a ten percent bidding credit on any Phase II 220 MHz license. Licensees who qualify as small businesses or very small businesses in 220 MHz auctions will be eligible to pay their winning bid amount in quarterly installments over the term of the license with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. These licensees may make interest-only payments for the first two years of the license term. We do not adopt reduced upfront payments or reduced down payments for small businesses in the Phase II 220 MHz service.

17. We will adopt unjust enrichment provisions similar to those adopted for narrowband PCS and the 900 MHz SMR service. If a licensee that qualifies for bidding credits and installment payments seeks to assign or transfer control of its license during its term to an entity that does not meet the small business or very small business definition, we will require payment of all or a portion of the bidding credit, remaining principal and any interest accrued through the date of assignment as a condition of the license assignment or transfer.

5. Partitioning and Disaggregation

18. We will permit any holder of a Phase II 220 MHz license to partition portions of its authorization and enter into contracts with eligible parties, allowing such parties to file long-form applications for the usable channels within the partitioned area. We will not at this time authorize spectrum disaggregation for the Phase II 220 MHz service.

F. Use of Spectrum for Particular Services

19. The Commission makes no warranties about the use of this spectrum for particular services. Applicants should be aware that a Commission auction represents an opportunity to become a Commission licensee in this service, subject to certain conditions and regulations. A Commission auction does not constitute an endorsement by the Commission of any particular services, technologies, or products, nor does a Commission license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

III. BACKGROUND

A. The 220-222 MHz Service

20. In 1988, the Commission adopted the *220 MHz Allocation Order*,[7] reallocating the 220-222 MHz band from the Amateur Radio service to private and Federal Government land mobile use. In so doing, we dedicated this spectrum for the development of spectrally-efficient narrowband technology to afford this technology an opportunity to gain acceptance in the

[7] Amendment of Part 2 of the Commission's Rules Regarding the Allocation of the 216-225 MHz Band, Report and Order, GEN Docket No. 87-14, 3 FCC Rcd 5287 (1988) (*220 MHz Allocation Order*); *recon. denied*, Memorandum Opinion and Order, 4 FCC Rcd 6407 (1989), *aff'd*, American Radio Relay League v. FCC, No. 89-1602, 918 F. 2d 978, 1990 WL 191636 (D.C. Cir. 1990).

marketplace. The 220 MHz service was then established in 1991 with the adoption of the *220 MHz Report and Order*.[8] It is regulated under Subpart T of Part 90 of our Rules.[9]

21. In the *220 MHz Report and Order*, the Commission adopted service rules for the assignment of 200 five kilohertz (kHz) channel pairs in the 220-222 MHz band to both Federal Government and private land mobile users. We authorized 60 of the 200 channel pairs for nationwide licensing, with 10 of these designated for assignment to Federal Government entities. The remaining 50 nationwide channel pairs were reserved for non-Government users, with 20 channel pairs designated for ``commercial" use and 30 channel pairs designated for ``non-commercial" use.[10] The 20 commercial channel pairs were divided into four five-channel blocks and the 30 non-commercial channel pairs were divided into two 10-channel and two five-channel blocks. We allocated the remaining 140 channel pairs for non-nationwide use by both Government and non-Government licensees. We also decided that all applications for 220 MHz channels would be granted on a first-come, first-served basis and that mutually exclusive applications would be assigned through random selection procedures.[11]

22. On May 1, 1991, the Commission began accepting applications for nationwide and non-nationwide licenses in the 220-222 MHz band. We received more than 59,000 applications, and on May 24, 1991, the Private Radio Bureau imposed a freeze on the filing of all applications, which included initial and modification applications, for the 220 MHz service.[12] In 1992[13] and

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[8] Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Notice of Proposed Rule Making, 4 FCC Rcd 8593 (1989) (*220 MHz Notice*); Report and Order, 6 FCC Rcd 2356 (1991) (*220 MHz Report and Order*); Further Notice of Proposed Rule Making, 7 FCC Rcd 898 (1992) (*220 MHz Further Notice*); *recon. granted in part, denied in part, & rules amended*, Memorandum Opinion and Order, 7 FCC Rcd 4484 (1992) (*220 MHz Memorandum Opinion and Order*); Erratum, DA 92-1177 (released Aug. 28, 1992); Second Erratum, 7 FCC Rcd 6297 (1992); *recon. granted in part, denied in part*, Order, 8 FCC Rcd 4161 (1993) (*220 MHz Second Reconsideration Order*), *recon. pending, appeal dismissed*, Evans v. FCC, Case No. 92-137, (D.C. Cir. Mar. 18, 1994).

[9] Subpart T of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.701-90.757.

[10] At the time of the adoption of the *220 MHz Report and Order*, we used the term ``commercial" to refer to licensees who would operate as carriers under Part 90 of our rules and provide commercial radio services to end users. We used the term ``non-commercial" to refer to licensees who would use spectrum to satisfy their own internal communications requirements. These terms do not correlate directly with the terms Commercial Mobile Radio Service (CMRS) and Private Mobile Radio Service (PMRS), as defined in Section 20.3 of the Commission's Rules, 47 C.F.R. § 20.3.

[11] *220 MHz Report and Order*, 6 FCC Rcd at 2364-65 (paras. 59, 62).

[12] Acceptance of 220-222 MHz Private Land Mobile Applications, Order, 6 FCC Rcd 3333 (1991) (*220 MHz Freeze Order*). The Private Radio Bureau imposed the suspension on licensing processing so that it could complete the disposition of the large number of applications before accepting more applications.

[13] Public Notice, Commission Announces Lottery for Rank Ordering of 220-222 MHz Private Land Mobile ``Local" Channels, 7 FCC Rcd 6378 (1992) (*Public Notice: Non-Nationwide Lottery*).

1993[14] we conducted random selection proceedings to resolve mutually exclusive non-nationwide and nationwide applications, respectively, and issued nearly 3,800 authorizations for non-nationwide stations and four licenses for nationwide, commercial systems. On July 30, 1992, certain aspects of the Commission's procedures for the filing and acceptance of 220 MHz license applications were appealed to the United States Court of Appeals for the District of Columbia.[15] In light of that appeal, the Private Radio Bureau announced that the construction deadline for all non-nationwide 220 MHz stations would be 120 days after the disposition of the *Evans v. FCC* case.[16] Following the settlement of the case in March 1994, the deadline for licensees to construct their systems and place them in operation has been extended on five separate occasions to allow licensees sufficient time to construct their systems.[17] In addition, as a consequence of the freeze, licensees wishing to relocate their authorized facilities through license modifications were unable to do so. Because of the freeze on 220 MHz applications, licensees relied on grants of Special Temporary Authority to modify their authorizations. On January 26, 1996, we adopted the *220 MHz Second Report and Order*.[18] In that proceeding, we re-opened the filing window for non-nationwide 220 MHz licensees who sought to obtain modification of the authorizations to

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[14] Public Notice, Commission Announces Lottery to Select Commercial Nationwide 220-222 MHz Band Private Land Mobile Licensees, DA 93-159 (released Feb. 16, 1993), 58 Fed. Reg. 09174 (Feb. 19, 1993) (*Public Notice: Nationwide Lottery*).

[15] Evans v. FCC, Case No. 92-1317 (D.C. Cir., filed July 30, 1992).

[16] *Public Notice: Non-Nationwide Lottery*, 7 FCC Rcd at 6378.

[17] Specifically, the Bureau extended the construction deadline to December 2, 1994, in an Order released on March 30, 1994. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, 9 FCC Rcd 1739 (1994). On August 19, 1994, the Private Radio Bureau then released a Public Notice extending the construction deadline to April 4, 1995. *See* Public Notice, Private Radio Bureau Extends Time to Construct Non-Nationwide 220 MHz Stations Through April 4, 1995 and Lifts Freeze for Applications to Modify Site Locations, 10 FCC Rcd 744 (1994). In the *CMRS Third Report and Order*, the Commission again identified April 4, 1995, as the construction deadline. *See CMRS Third Report and Order*, 9 FCC Rcd at 8077 (para. 184). On February 17, 1995, the Wireless Telecommunications Bureau released an Order extending the deadline to December 31, 1995. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket 89-552, Order, 10 FCC Rcd 3356 (1995). On December 15, 1995, the Bureau released an Order providing for a further extension of the construction deadline contingent upon the closure of the Commission as a result of any furlough of Federal Government employees. The ensuing 23-day Federal furlough resulted in an extension of the
construction deadline to February 2, 1996, pursuant to a formula established in the Bureau Order. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, Order, DA 95-2490 (released Dec. 15, 1995). Finally, the *220 MHz Second Report and Order* established a March 11, 1996, construction deadline, but licensees seeking modification of their authorization to relocate their base stations were granted until August 15, 1996, to construct their base station and place it in operation or commence service. *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, 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, 11 FCC Rcd 3668 at 3674-5 (para. 26, 28) (1996) (*220 MHz Second Report and Order*) *recon. pending*.

[18] *220 MHz Second Report and Order*, 11 FCC Rcd 3668.

relocate their base stations.[19]

B. LEGISLATIVE AND COMMISSION ACTIONS PURSUANT TO BUDGET ACT

23. On August 10, 1993, Congress enacted the Budget Act, in which it, *inter alia*, amended Section 332 of the Communications Act of 1934[20] to replace the existing land mobile radio regulatory scheme with two newly defined categories of mobile services: commercial mobile radio service (CMRS) and private mobile radio service (PMRS). CMRS is defined as ``any mobile service (as defined in section 3 [of the Communications Act]) that is provided for profit and makes interconnected service available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public."[21] PMRS is defined as ``any mobile service (as defined in section 3) that is not a commercial mobile service or the functional equivalent of a commercial mobile service, as specified by regulation by the Commission."[22]

24. The statute directed the Commission to implement these classifications in its regulations and to provide for comparable regulation of substantially similar CMRS services. Accordingly, we initiated our CMRS proceeding in GN Docket No. 93-252 and began the process of implementing the Budget Act in the *CMRS Second Report and Order* released on March 7, 1994.[23] In the *CMRS Second Report and Order*, we determined that our private land mobile service rules with respect to Specialized Mobile Radio (SMR), Business Radio, 220-222 MHz, and private paging allow, but do not require, licensees to offer for-profit, interconnected service to the public, thus meeting the CMRS definition.[24] We found that, to the extent that 220-222 MHz channels are used to offer for-profit and interconnected service, the channels fall within the definition of CMRS. We also adopted a timetable for transition to the new regulatory structure for reclassified CMRS licensees as set forth in the Budget Act. Licensees authorized before enactment of the Act on August 10, 1993, and reclassified as CMRS continued to be regulated as private service providers for a three-year period, until August 10, 1996.[25]

25. In addition, the Budget Act granted the Commission the authority to use competitive

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[19] *Id.*

[20] Communications Act of 1934, 47 U.S.C. §§ 151-614 (Communications Act).

[21] *Id.*, Section 332(d)(1), 47 U.S.C. § 332(d)(1).

[22] *Id.*, Section 332(d)(3), 47 U.S.C. § 332(d)(3). The term ``mobile service," as used in the quoted language in the text, is defined in Section 3(27) of the Communications Act, 47 U.S.C. § 153(27).

[23] 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 (1994) (*CMRS Second Report and Order*); Erratum, 9 FCC Rcd 2156 (1994), *recon. pending*.

[24] *CMRS Second Report and Order*, 9 FCC Rcd at 1450-53 (paras. 88-97).

[25] *Id.* at 1512-14 (paras. 278-84).

bidding to choose among mutually exclusive applications for initial licenses.[26] Under Section 309(j)(2) of the Communications Act, the Commission may use competitive bidding if it finds that the principal use of the spectrum is reasonably likely to involve the offering of service to subscribers in return for compensation for such service. Also, Section 309(j)(2) requires the Commission to find that competitive bidding will promote the objectives described in Section 309(j)(3).

26. On April 20, 1994, we adopted the *CMRS Further Notice*, in which we proposed revisions to our technical, operational, and licensing rules and procedures for reclassified CMRS services.[27] The Budget Act required that we determine if a reclassified private land mobile service is ``substantially similar'' to a common carrier service and, if so, the extent to which it is ``necessary and practical'' to modify our rules to ensure that the two services are subject to ``comparable'' technical requirements.[28]

27. On August 9, 1994, we adopted the *CMRS Third Report and Order*. We noted therein that a substantial majority of commenters addressing the 220 MHz service contended that, for technical reasons, 220 MHz service is not substantially similar to any Part 22 service.[29] We concluded, however, that most commenters had taken a relatively narrow view of the range and scope of CMRS competition, and that, for purposes of determining whether CMRS services are substantially similar, 220 MHz offerings have the potential to compete with other commercial mobile offerings as technology evolves and the offerings begin to gain commercial acceptance.[30]

28. After reviewing the pleadings, we decided to defer consideration of a new licensing plan for the 220 MHz service based on different-sized channel blocks or service areas to a separate proceeding, where a more comprehensive record could be developed.[31] While adopting the use of competitive bidding procedures to resolve competing CMRS applications, we specifically deferred the adoption of new application filing and selection procedures for the 220 MHz service to the instant proceeding.[32] We also deferred any decision regarding the definition of initial applications, amendments to applications, and license modifications for the service to this

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[26] Communications Act, § 309(j), 47 U.S.C. § 309(j).

[27] Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Further Notice of Proposed Rule Making, 9 FCC Rcd 2863 (1994) (*CMRS Further Notice*).

[28] Budget Act, § 6002(d)(3).

[29] *CMRS Third Report and Order*, 9 FCC Rcd at 8006-07 (para. 34).

[30] *Id*. at 8026 (para. 67).

[31] *Id*. at 8055 (paras. 126-127).

[32] *Id*. at 8141 (para. 345).

proceeding.[33]

[33] Because of the freeze on 220 MHz applications, licensees relied on grants of Special Temporary Authority (STAs) to modify their authorizations, and many of the commenters requested special provisions to enable them to file modification applications before any new application procedures were put in place. *See CMRS Third Report and Order*, 9 FCC Rcd at 8147-48 (paras. 359-62). These concerns were addressed in the *220 MHz Second Report and Order*. *See 220 MHz Second Report and Order*, 11 FCC Rcd 3668.

C. 220 MHz Third Notice

29. On July 28, 1995, the Commission adopted the *220 MHz Third Notice*, which proposed a new framework for the operation and licensing of the 220-222 MHz band. In that proceeding, we proposed that: (1) Phase II 220 MHz spectrum be authorized through a combination of nationwide and regional licensing; (2) 220 MHz licensees be permitted to offer certain, currently unauthorized communications services on a primary basis, (*e.g.*, paging, and fixed operations); (3) we would preserve allocations of 220 MHz spectrum for eligibles in the Public Safety Radio Services and the Emergency Medical Radio Service (EMRS); and (4) mutually exclusive applications for all Phase II channels, with the exception of the channels allocated for public safety and EMRS entities, would be assigned through competitive bidding.

IV. DISCUSSION

A. Overview

30. Based on our review of the comments in the *CMRS Further Notice*, the *CMRS Third Report and Order*, and related CMRS decisions, and the status of the 220 MHz service under the current regulations, we decided, in the *220 MHz Third Notice*, to propose a revised regulatory scheme for the 220 MHz service. The proposed rules would govern all Phase II applicants and licensees in the 220 MHz service, as well as certain existing Phase I licensees. Our plan was to retain the basic framework of the technical and operational rules consistent with the original service goals, but to revise them to permit more flexible operations consistent with the goals of the Budget Act for reclassified CMRS licensees. We received 33 comments and 15 reply comments, from a broad segment of interested parties, in response to the various proposals we made in the *Third Notice*. A list of commenters is found in Appendix C.

B. Channel Assignment and Service Area Rules

31. In the *Third Notice*, we indicated that by providing both nationwide and non-nationwide 220 MHz channels, we would enable a variety of services to be made available to the public. We therefore proposed that both nationwide and non-nationwide assignments continue to be made available in Phase II in the 220 MHz service. We now conclude that in Phase II licensing of the 220 MHz band, we should provide for both nationwide and non-nationwide channels. The channel assignment and service rules that we are adopting for nationwide and non-nationwide licensing of the 220 MHz band are discussed in the following sections.

1. Nationwide Licensing

a. *Background*

32. We decided, in our 220 MHz Report and Order, to authorize 60 of the 200 channel pairs in the 220-222 MHz band for nationwide licensing. Ten of these channel pairs were for assignment to Federal Government entities and of the remaining 50 channel pairs reserved for non-Government users, 20 were designated for ``commercial'' use and 30 were designated for ``non-commercial'' use.[34] The 20 commercial channel pairs were divided into four five-channel

[34] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (paras. 34-36).

blocks (Channels 21-25, 26-30, 151-155, and 156-160). The 30 non-commercial channel pairs were divided into two 10-channel blocks (Channels 51-60 and 141-150), and two five-channel blocks (Channels 81-85 and 86-90). On May 1, 1991, we received 140 applications for the four commercial licenses. We also received 14 applications for the two 10-channel non-commercial licenses and 20 applications for the two five-channel non-commercial licenses.[35]

33. The rules adopted in the *220 MHz Report and Order* provided that applicants for nationwide authorizations would have to submit additional information to satisfy specified entry criteria and financial requirements.[36] Applicants were not required to file this information at the time they filed their applications, but rather were to be notified in a public notice when this information should be submitted.[37] In our *220 MHz Memorandum Opinion and Order*, released July 16, 1992, we modified the entry criteria and financial requirements for nationwide authorizations.[38] Subsequently, a petition was filed seeking reconsideration of certain of these modifications relating to the licensing of nationwide, *non-commercial* systems. Consequently, the Private Radio Bureau announced, in a September 29, 1992, Public Notice,[39] that it would require the amending application information from nationwide commercial applicants by November 19, 1992, but that it would not accept filings from non-commercial applicants until the adoption of an order addressing the petition for reconsideration of the *220 MHz Memorandum Opinion and Order*. Following the receipt of the filings from the commercial applicants, the Bureau conducted a lottery on March 31, 1993,[40] that led to the assignment of the four nationwide commercial licenses.[41] In the *220 MHz Second Reconsideration Order*, released June 21, 1993, we addressed the matters relating to non-commercial nationwide licensing raised on reconsideration.[42] However, following the adoption of the *220 MHz Second Reconsideration Order*, we received three additional petitions seeking reconsideration of certain decisions in that Order. With this proceeding not yet terminated, we have not solicited the amending application information from the applicants for non-commercial

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[35] Subsequently, one of the 34 applicants withdrew its application pursuant to the rule changes we adopted in the *220 MHz Memorandum Opinion and Order* that we found significantly altered the construction and operational requirements for the nationwide, non-commercial channels. We permitted nationwide, non-commercial applicants to withdraw their applications and provided for the refund of their filing fees. *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4489 n. 66 (para. 23).

[36] *220 MHz Report and Order*, 6 FCC Rcd at 2363-64 (paras. 50-55); Section 90.713 of the Commission's Rules, 47 C.F.R. § 90.713.

[37] *220 MHz Report and Order*, 6 FCC Rcd at 2364 n.118 (para. 55).

[38] *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4493 (para. 41).

[39] Public Notice, November 19, 1992 Date Established for Commercial Nationwide 220-222 MHz Band Applicants To File Application Amendments To Satisfy Entry Criteria, DA 92-1321 (released Sept. 29, 1992), 57 Fed. Reg. 49475 (Oct. 1, 1992).

[40] *Public Notice: Nationwide Lottery*, 58 Fed. Reg. 09174.

[41] Public Notice, Commission Announces Tentative Selectees for 220-222 MHz Nationwide Commercial Private Land Mobile Channels, DA 93-376 (released April 1, 1993), 58 Fed. Reg. 26322 (May 3, 1993).

[42] *220 MHz Second Reconsideration Order*, 8 FCC Rcd at 4164 (para. 11).

licenses.

b. *In General*

(1) Proposal

34. In the *Third Notice* we found, citing the experience in the nationwide narrowband PCS auction, that there was an apparent demand in the mobile communications marketplace for nationwide licenses. We also found nationwide licenses would increase competition among nationwide wireless communications providers and would help meet future customer demand for nationwide service. We tentatively concluded that the 30 channels originally designated for nationwide, non-commercial use should continue to be designated for nationwide operations. We sought comment on whether these channels should be so designated or whether they should be made available for some form of non-nationwide operations.[43]

(2) Comments

35. No commenters argue against a designation for nationwide channels. Metricom, in supporting a nationwide channel designation, argues that, without a nationwide designation, carriers seeking to offer nationwide services would be forced to acquire five regional licenses or more than 150 EA licenses.[44] Pagenet favors nationwide licensing because, in its view, there clearly is consumer demand for nationwide services.[45]

(3) Decision

36. We conclude that, recognizing the consumer demand for nationwide services, the 30 channels originally designated for nationwide use should continue to be allotted for nationwide operations. Nationwide licenses will alleviate the problem of licensees having to aggregate smaller licensed service areas in order to provide their customers with nationwide service. Also, since potential competitive services have designations for nationwide service, a nationwide designation in this service will lead to increased competition among those services. Licensees authorized on these channels will be permitted to construct stations and place them in operation anywhere in the Nation so long as licensees ensure that: (1) they operate their stations in accordance with the provisions of Sections 1.1301 through 1.1319 of our Rules (Procedures Implementing the National Environmental Policy Act of 1969); (2) they operate their stations in compliance with their air safety responsibilities, as outlined in Part 17.6 of our Rules; and (3) they are in compliance with all applicable international agreements (*e.g.*, Section 90.715 relating to operation in U.S./Mexican border areas).

c. *Non-Commercial Channel Set-Aside*

(1) Proposal

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[43] *Third Notice*, 11 FCC Rcd at 207 (para. 33).

[44] Metricom Comments at 9.

[45] Pagenet Comments at 4.

37. In the *Third Notice*, we noted that we previously did not decide to set aside spectrum for nationwide, non-commercial operations to satisfy some perceived demand on the part of the public for the use of such spectrum. Rather, we were concerned with implementing rules that would encourage the development of 5 kHz technology, and thus concluded that a combination of commercial and non-commercial nationwide channels would ``promote the widest variety of advanced narrowband development."[46] With our Phase I authorization of 3,800 non-nationwide licenses, which will be used for both commercial and non-commercial purposes, we believed that we had taken steps to promote the development of narrowband technology, as envisioned in the *220 MHz Report and Order*. We tentatively concluded, therefore, that there should be no set-aside for non-commercial channels in Phase II licensing, and that nationwide channels should be made available equally to all applicants. We sought comment on this tentative conclusion.[47]

(2) Comments

38. Several commenters urge the Commission to maintain a non-commercial set-aside for the 220 MHz service.[48] Global, 360, and Airborne argue that the Commission originally designated a non-commercial set-aside based on perceived demand on the part of large companies to meet their internal communication needs.[49] Several commenters argue that there is a continuing demand for a non-commercial set-aside in this service.[50] Some commenters contend that the fact that there are 33 applications for the nationwide, non-commercial licenses proves this demand still exists.[51] Several commenters reason that these companies would not have spent their time and funds applying for these licenses if they had no need for them.[52] AMTA states that companies still need these non-commercial licenses to meet their critical internal communication needs.[53] Airborne, Fleet, UTC, and Columbia state in their comments that, if they are awarded one of these licenses, they will use the license to meet internal communication needs.[54]

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[46] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (para. 36).

[47] *Third Notice*, 11 FCC Rcd at 208 (para. 34).

[48] Airborne Comments at 2; Comtech Comments at 2-4; Comtech Reply at 3; Global Comments at 2-3; 360 Comments at 2; ITA Comments at 3-6; Columbia Reply at 7; AMTA Comments at 10; AMTA Reply at 7.

[49] Global Comments at 2-3; 360 Comments at 2; Airborne Comments at 2.

[50] Airborne Comments at 2; AMTA Comments at 10; AMTA Reply at 7; Columbia Reply at 7; Comtech Reply at 3; Global Comments at 2-3; ITA Comments at 3-6; 360 Comments at 2.

[51] AMTA Comments at 10; AMTA Reply at 7; Global Comments at 2; 360 Comments at 2; Columbia Reply at 5.

[52] Global Comments at 3; 360 Comments at 2.

[53] AMTA Reply at 7.

[54] Airborne Comments at 2; Fleet Comments at 2; UTC Comments at 2-3; Columbia Reply at 7.

39. Several commenters argue that, for reasons such as cost,[55] high demand for commercial services,[56] and inability to meet companies' technical requirements,[57] commercial services are not able adequately to fulfill their internal communications needs.[58] Ericsson contends that the pending applications illustrate that the primary use of these 220 MHz spectrum licenses will not be commercial.[59] ITA argues that the Commission has the authority to require additional information from the applicants to ensure that potential licensees will use the spectrum internally.[60] Furthermore, Comtech also argues that narrowband technology still needs to be promoted and that a non-commercial set aside will spur growth in this area.[61]

40. Other commenters argue that there should not be a set-aside for non-commercial nationwide use in the 220 MHz service.[62] Pagenet contends that, with the advances that have been made in efficient use of the spectrum, it is hard to envision any business with internal communication needs which will require the total spectrum allotted for each 220 MHz authorization.[63] U.S. Mobilcomm contends that, since the Commission's rules allow for the leasing of excess capacity, there is already a *de facto* commercial allotment of this spectrum.[64] Pagenet alleges that a non-commercial set-aside will do nothing to encourage the development and efficient use of the 220 MHz band.[65] U.S. Mobilcomm and Pagenet argue that, if the spectrum is redesignated, marketplace economics will ensure that licensees will use the spectrum to the fullest possible extent.[66] Metricom contends that redesignating this spectrum for commercial use will open the nationwide spectrum to a myriad of uses that would provide a variety of services to consumers.[67] Pagenet points out that wide-area or nationwide service needs

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[55] Airborne Comments at 2; ITA Comments at 6.

[56] Airborne Comments at 2.

[57] Airborne Comments at 2; ITA Comments at 6-8.

[58] Airborne Comments at 2; ITA Comments at 6-8.

[59] Ericsson Comments at 2.

[60] ITA Comments at 8.

[61] Comtech Comments at 3-4.

[62] Metricom Comments at 8-9; Pagenet Comments at 8-9; Pagenet Reply at 16-17; SMR Comments at 7-9; SMR Reply at 5-6; U.S. Mobilcomm Comments at 4.

[63] Pagenet Comments at 8.

[64] U.S. Mobilcomm Comments at 4. *See also* Pagenet Reply at 16.

[65] Pagenet Comments at 8.

[66] U.S. Mobilcomm Comments at 4; Pagenet Comments at 8-9.

[67] Metricom Comments at 9.

of individual companies can be met by commercial operators.[68]

41. Several commenters point out that the original reason for the non-commercial set-aside was to encourage development of 5 kHz technology, and not to satisfy perceived demand for non-commercial use.[69] Metricom argues that this goal has been achieved through the authorization of 3,800 licenses for 220 MHz services.[70] SMR and U.S. Mobilcomm state that narrowband technology has been widely developed and employed.[71]

(3) Decision

42. We find that it would be in the public interest to also allow commercial operations on the channels formerly designated solely for non-commercial operations. Our decision is based in part upon our conclusion that making the spectrum available for both commercial and non-commercial use is an effective means of promoting efficient use of the spectrum. First, the parties in this proceeding demonstrate apparent demand for nationwide spectrum for the provision of commercial services to the public.[72] Second, we think that allowing Phase II 220 MHz nationwide licensees to partition their licenses[73] and, in addition, proposing to permit them to disaggregate their spectrum[74] should also help to meet the needs of non-commercial users. Third, we believe that companies may be able to meet some of their internal communications needs through the purchase of service from a commercial provider.[75] Fourth, we are not precluding a nationwide licensee from using some or all of its spectrum for internal communications. Thus, an applicant that is committed to the use of spectrum for non-commercial purposes will have the opportunity to acquire a license for the spectrum at auction, just as they might purchase a license from an existing licensee in the secondary market. Also, if the highest value for this spectrum (as determined by the marketplace) is internal communications, then the auction winner will use the spectrum for that use.

d. ***Assignment of Nationwide Channels***

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[68] Pagenet Comments at 8.

[69] Metricom Comments at 8; SMR Comments at 8 n.7; SMR Reply at 5 n.12; U.S. Mobilcomm Comments at 4 n.4.

[70] Metricom Comments at 8.

[71] SMR Comments at 8 n.7; SMR Reply at 5-6; U.S. Mobilcomm Comments at 4 n.4.

[72] *See, e.g.,* Pagenet Reply at 16; SMR Reply Comments at 7; U.S. MobilComm Comments at 4.

[73] See para. 308, *infra*.

[74] See para. 321, *infra*.

[75] United Parcel Service, for example, is meeting its needs for a nationwide data network by obtaining cellular services from an alliance consisting of McCaw, GTE Mobile Communications, PacTel Cellular, and Southwestern Bell Mobile Systems. *Special Mobile Phone News Subscriber Supplement Mobile Data: Lead, Follow or Get Out of the Way,* Mobile Phone News, Oct. 8, 1992.

(1) Channel Assignment Method

(a) *Proposal*

43. In deciding the assignment methodology for resolving mutually exclusive applications for the Phase II nationwide channels, we are instructed by Section 309(j) of the Communications Act and the *Competitive Bidding Second Report and Order* to determine the principal use of the spectrum. In proposing to make the 30 Phase II nationwide licenses available for both commercial and non-commercial use, we indicated in the *Third Notice* that we could not determine with absolute certainty, in advance of authorization, whether the primary use of this spectrum would be for licensees' internal use or for the provision of for-profit, subscriber-based services. Based on a review of our records, we tentatively concluded that the vast majority of the 59,000 applicants for 220 MHz non-nationwide stations intended to use their authorized spectrum to provide services to subscribers on a for-profit basis.[76]

44. Although we recognized that the projected use of 220 MHz channels for non-nationwide operations may not necessarily parallel the planned use of the channels by nationwide licensees, we believed that the fact that most non-nationwide applicants apparently intended to use the channels for commercial use was a strong indication that this will also likely be the principal use of the spectrum by prospective nationwide licensees. We thus tentatively concluded that the principal use of the 30 channels allocated for nationwide use is most likely to be for the transmission or reception of communications signals to subscribers for compensation and, therefore, in accordance with Section 309(j)(2)(A) of the Communications Act, mutually exclusive applications for initial licensing of these channels should be assigned by competitive bidding.[77]

(b) *Comments*

45. Pagenet notes that there is no doubt that once this spectrum is awarded licensees in fact will use the spectrum for commercial, for-profit activities.[78] ITA, UTC, and Ericsson argue, however, that there is no evidence to indicate that the current applicants for these channels would offer commercial services.[79] UTC also notes that even if the Commission concludes that the current applicants would be likely to offer subscriber-based service, the auction statute does not compel the Commission to use competitive bidding.[80]

(c) *Decision*

46. Based on our analysis in the *Third Notice*, we adopt our proposal to assign mutually

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[76] *Third Notice*, 11 FCC Rcd at 209 (para. 36).

[77] *Id*.

[78] Pagenet Comments at 7; Pagenet Reply at 5.

[79] UTC Comments at 6; ITA Comments at 8; Ericsson Comments at 2.

[80] UTC Comments at 7.

exclusive applications for nationwide licenses through competitive bidding. In the *Competitive Bidding Second Report and Order*, we found that the Commission must look to the service rather than the individual licenses to determine whether the principal use of the spectrum is reasonably likely to meet the criteria set forth in Section 309(j).[81] The three commenters who maintain that the use of this spectrum will be for non-commercial purposes do so on the basis of the most likely principal use by *current* 220 MHz applicants. Even if we were to agree *arguendo* with the claims made by these commenters, we do not believe it would be reasonable or prudent to base our analysis concerning the principal use of this spectrum solely on the likely principal use by current applicants. These applicants applied for non-commercial licenses; potential licensees who want to use this spectrum for commercial purposes would not have applied for these licenses during the original filing period because the licenses were designated for non-commercial use.

47. There is no evidence in the record which contradicts our tentative conclusion in the *Third Notice* that, if the 30 Phase II nationwide channels are available to all prospective applicants, then the principal use of the spectrum is most likely to be for the transmission or reception of communications signals to subscribers for compensation. In reaching the decision that this spectrum should be auctioned, we find that assigning this spectrum through competitive bidding will promote achievement of our legislative mandate to ensure an ``efficient . . . Nation-wide . . . radio communication service with adequate facilities at reasonable charges . . . ."[82] We also conclude that use of competitive bidding to assign this spectrum contributes to our statutory obligation to seek to promote the development of new technologies and service to benefit the public,[83] and to seek to promote efficient and intensive use of the spectrum.[84]

(2) Channel Block Sizes

(a) *Proposal*

48. In the *220 MHz Report and Order*, we assigned the 30 nationwide, non-commercial channels in two five-channel and two 10-channel blocks.[85] In the *Third Notice* we proposed to allow future 220 MHz licensees to offer a wider variety of communications services than are currently permitted in the 220 MHz service. We noted that, in order to provide these services, nationwide licensees may require more spectrum than would be available in an authorization consisting of only five 5 kHz channels. We therefore proposed to assign the 30 nationwide channels in Phase II in three 10-channel blocks (Channels 51-60, 81-90, and 141-150) of 5 kHz channels. We sought comment on this proposed channel assignment plan, as well as any

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[81] Implementation of Section 309(j) of the Communications Act--Competitive Bidding, PP Docket No. 93-253, Second Report and Order, 9 FCC Rcd 2348, 2354 (para. 34) (1994) (*Competitive Bidding Second Report and Order*).

[82] Section 1 of the Communications Act, 47 U.S.C. § 151.

[83] Section 309(j)(3)(A) of the Communications Act, 47 U.S.C. § 309(j)(3)(A).

[84] Section 309(j)(3)(D) of the Communications Act, 47 U.S.C. § 3039(j)(3)(D).

[85] *220 MHz Report and Order*, 6 FCC Rcd at 2361 (paras. 35-36).

alternative channel assignment proposals.[86]

(b) *Comments*

49. The only parties addressing this issue, Metricom and Pagenet, support the proposed channel assignment plan.[87] Metricom notes that many of the new services being proposed will require far greater bandwidth than a five-channel block.[88] Pagenet believes that the assignment of 10-channel blocks will allow licensees to compete in the CMRS marketplace by offering a variety of PCS type, one-way, two-way, data, and other services.[89]

(c) *Decision*

50. We agree with the commenters that the Commission's proposal to expand the permitted uses in the 220 MHz band requires that we reexamine our original channel block sizes. In order to accommodate these new services, many of which will require more spectrum than would be available in a five-channel block, we will adopt our proposal to assign the 30 nationwide channels in Phase II in three 10-channel blocks (Channels 51-60, 81-90, and 141-150). We believe that this plan will increase the economic viability of the 220 MHz systems, thus allowing the licensees to more fully serve the needs of the public. We also conclude that our decision to license 220 MHz nationwide licenses in 10-channel blocks, along with our other decisions in this Order, will promote the purposes specified in Section 1 and Section 309(j)(3) of the Communications Act. For example, granting licensees the flexibility associated with larger spectrum blocks should help to promote technical innovation by providing licensees with additional flexibility to take advantage of new technology. At the same time, we believe that these 10-channel licenses will be small enough to provide an opportunity for small businesses. As stated above, we believe this plan will increase the economic viability of 220 MHz licenses, and thus promote competition in the CMRS marketplace.

(3) Limit on Nationwide Authorizations

(a) *Proposal*

51. In the *Third Notice* we noted that restricting the number of nationwide authorizations any single 220 MHz licensee may acquire may lead to greater competition among Phase II licensees. If, however, such licensees are in competition with other CMRS providers, we tentatively concluded that a restriction on the number of authorizations a single 220 MHz licensee may hold may not be necessary or appropriate. We therefore asked for comment on whether a limit should be placed on the number of Phase II nationwide authorizations that may be obtained

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[86] *Third Notice*, 11 FCC Rcd at 209-10 (para. 37).

[87] Metricom Comments at 10; Pagenet Comments at 9-10.

[88] Metricom Comments at 10.

[89] Pagenet Comments at 9-10.

by a single licensee.[90]

(b) *Comments*

52. Metricom states that 220 MHz licensees will face substantial competition from other services and therefore favors allowing one licensee to acquire multiple nationwide licenses.[91] Pagenet argues that limiting the number of licenses that can be held by any 220 MHz licensee will also limit a licensee's ability to offer unique services, therefore, the Commission would be manipulating the future CMRS marketplace without knowing the types of services that would ultimately be provided on the 220 MHz spectrum.[92]

(c) *Decision*

53. We agree with the commenters that 220 MHz licensees will not simply be in competition with other 220 MHz licensees but will also face competition from other services such as, cellular, PCS, and SMR. Since the 220 MHz licensees will be in competition with other CMRS providers, we conclude that there is no reasonable basis to fear that any threat to competition will arise as a result of allowing one 220 MHz service licensee to acquire multiple nationwide channel blocks.

(4) License Terms

54. We proposed in the *Third Notice* to establish a 10-year license term for nationwide 220 MHz licenses.[93] We received no comments on this proposal. We have previously adopted a uniform 10-year licensing term for all CMRS licenses, including narrowband and broadband PCS services and the 900 MHz SMR service. By adopting our proposal for a 10-year license term for nationwide 220 MHz authorizations, all of these services will have 10-year license terms. In addition, we believe that a 10-year license term will provide sufficient time for 220 MHz nationwide licensees to complete construction of their systems. We therefore adopt a 10-year license term for nationwide 220 MHz licensees.

(5) Aggregation

(a) *Proposal*

55. In the *Third Notice* we proposed that both Phase I and Phase II licensees be permitted to aggregate their contiguous channels to create wider bandwidth channels. We expressed the belief that our existing 5 kHz-wide channels unnecessarily restrict the types of services that can be provided in the 220 MHz band and prevent other, perhaps equally spectrally efficient, technologies from being employed in the band. In drawing our tentative conclusion, we

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[90] *Third Notice*, 11 FCC Rcd at 210 (para. 38).

[91] Metricom Comments at 10.

[92] Pagenet Comments at 10.

[93] *Third Notice*, 11 FCC Rcd at 210 (para. 39).

acknowledged that allowing 220 MHz licensees to aggregate their channels is a significant departure from our initial decision not to allow 220 MHz licensees to group narrowband channels.[94]

(b) *Comments*

56. Several commenters, primarily manufacturers of 5 kHz equipment, assert that there are many other spectrum bands, where digital and other technologies are being used but that only in the 220 MHz band is 5 kHz, narrowband technology employed and, therefore, they disagree with our proposal to allow 220 MHz to aggregate contiguous channels.[95] These commenters, believe that, if we adopt this proposal, we would be abandoning our commitment to the implementation of narrowband technologies and would severely jeopardize their ability to continue to develop and market that technology.[96] Other commenters, however, support the proposal to allow the aggregation of channels, arguing that this type of flexibility will allow 220 MHz licensees to offer a wider variety of communications services and more effectively compete in the wireless marketplace.[97]

(c) *Decision*

57. For the reasons set forth in Section IV.B.2.c(4)(b)(iv), *infra*, with regard to the licensing of non-nationwide 220 MHz spectrum, we conclude that Phase I and Phase II nationwide licensees should be permitted to aggregate their contiguous 5 kHz channels and operate on channels wider than 5 kHz. In doing so, however, licensees will be required to comply with the spectrum efficiency standard set forth in Section IV.B.2.c(5), *infra*.

2. Non-Nationwide Licensing

a. *Background*

58. In the *220 MHz Report and Order*, we allocated 140 of the 200 channel pairs in the 220 MHz service for non-nationwide use by both Government and non-Government licensees. The non-Government users eligible for authorization on these channels are those entities eligible for assignment under Subparts B, C, D, and E of Part 90 of our rules[98] as well as those entities

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[94] *Third Notice*, 11 FCC Rcd at 229 (para. 82). *See 220 MHz Notice*, 4 FCC Rcd at 8597 n.49 (para. 27).

[95] *See* SEA Comments at 9, 13; Securicor Reply at 3; E.F. Johnson Comments at 6; PCIA Comments at 8.

[96] *See* SEA Comments at 9-10; SEA Reply at 5; E.F. Johnson Comments at 6; PCIA Comments at 8.

[97] AMTA Comments at 18; Metricom Comments at 4; Pagenet Comments at 11-12; Global Reply Comments at 3 (supporting channel aggregation only for nationwide licensees). *See also* Comtech Comments at 6.

[98] These are entities eligible in the Public Safety Radio Services (Subpart B), the Special Emergency Radio Services (Subpart C), the Industrial Radio Services (Subpart D), and the Land Transportation Radio Service (Subpart E). *See* Section 90.703(a) of the Commission's Rules, 47 C.F.R. § 90.703(a). The licensees eligible in these services would use 220 MHz spectrum to meet their internal communications needs.

who intend to use the spectrum to provide commercial services.[99] Forty of the 140 non-nationwide channels (Channels 161-200) were assigned for ``individual, non-trunked local use,"[100] with the remaining 100 channels assigned in the form of 20 five-channel blocks designated for trunked operation.[101] Ten of the 40 individual, non-trunked channels (Channels 161-170) were reserved exclusively for applicants eligible in the Public Safety Radio Services, five channels (Channels 181-185) were to be used exclusively by applicants eligible in the Emergency Medical Radio Service (EMRS),[102] and 15 channels (Channels 186-200) were designated for ``data-only" use.[103] The only restrictions on the remaining channels (Channels 171-180) are that they be licensed individually and that they be used for non-trunked operation. The current allocation of non-nationwide channels is described in the following Table:

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[99] Section 90.703(c) of the Commission's Rules, 47 C.F.R. § 90.703(c).

[100] 220 MHz Report and Order, 6 FCC Rcd at 2362 (paras. 40-44); Section 90.719 of the Commission's Rules, 47 C.F.R. § 90.719.

[101] *220 MHz Report and Order* at 2358 (para. 16); Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721. In the non-trunked, or ``conventional" mode of operation, end users on a land mobile system must manually search for an unused channel. Trunking is a computerized technology that automatically selects an unused channel on the system and assigns it to the end user.

[102] Amendment of Part 90 of the Commission's Rules To Create the Emergency Medical Radio Service, PR Docket No. 91-72, Report and Order, 8 FCC Rcd 1454 (1993) (*EMRS Report and Order).*

[103] *220 MHz Report and Order*, 6 FCC Rcd at 2362 (para. 44) (allocating Channels 181-200 for ``data-only" use). We subsequently reallocated five of these channels for the exclusive use of licensees in the Emergency Medical Radio Service in the *EMRS Report and Order*, thus leaving Channels 186-200 as the current ``data-only" channels. *See EMRS Report and Order*, 8 FCC Rcd at 1459 (para. 28).

The Existing (Phase I) Band Plan

EXISTING 220-222 MHz CHANNEL ALLOCATION PLAN	
NON-NATIONWIDE	**CHANNELS**
Twenty 5-Channel Trunked Groups	Group No. 1: Channels 1, 31, 61, 91 and 121 Group No. 2: Channels 2, 32, 62, 92, and 122 . . . Group No. 20: Channels 20, 50, 80, 110 and 140
Ten Public Safety Channels	Channels 161-170
Ten Non-Trunked Channels	Channels 171-180
Five EMRS Channels	Channels 181-185
Fifteen Data-Only Channels	Channels 186-200
TOTAL	**140 CHANNELS**

b. *Assignment and Permissible Uses of Channels 161-200*

(1) Assignment of Public Safety Service Channels (Channels 161-170)

(a) *Proposal*

59. In the *Third Notice*, we proposed to continue to set aside Channels 161-170 for Public Safety Radio Service entities. We indicated that we should continue this allocation because it would provide public safety eligibles with needed spectrum to coordinate their responses to various types of emergencies. We also sought comment as to whether use of five of the ten Public Safety Channels (Channels 161-165) for base station operations should be shared among all Public Safety eligibles. We indicated that under such an assignment scheme, all Public Safety eligibles in a given area would be able to construct base stations operating on these channels to better maximize interoperability among licensees. We noted that our current licensing scheme does not provide for such interoperability because an individual Public Safety licensee could obtain base station authorization for the exclusive use of all of the 10 available channels in a particular area.[104]

[104] *See Third Notice*, 11 FCC Rcd at 213 (para. 45).

(b) *Comments*

60. Several commenters favor the continued allocation of spectrum for pubic safety eligibles. For example, APCO ``strongly supports the Commission's proposal to retain the current 10-channel allocation for the Public Safety Radio Services and the 5-channel allocation for the EMRS in the 220-222 MHz band."[105] AMTA, while endorsing the proposal, suggests that ``[s]hould it be determined at some future date that these channels are not useful for [Public Safety and EMRS purposes, it] assumes the FCC will revisit that allocation."[106] Comtech[107] and Johnson also favor the proposal, but Comtech believes that public safety licensees should be prohibited from reselling excess capacity on their systems.[108] In support of its position, Comtech states that, ``[t]o the extent that remaining 220 MHz spectrum will be subject to auction, public safety licensees should not be permitted to offer services on spectrum that they obtain for free in competition with entities that are required to pay for spectrum."[109]

(c) *Decision*

61. We believe that it is in the public interest to continue to allocate ten 220 MHz non-nationwide channel pairs for the exclusive use of Public Safety eligibles. No commenters oppose this decision. Although Public Safety eligibles may obtain a license on any of the 220 MHz non-nationwide channels, we believe that it is reasonable at this time to dedicate 10 channels exclusively to Public Safety eligibles.[110] This decision is not intended to prejudice the comprehensive examination of the spectrum needs of Public Safety eligibles that we have recently undertaken.[111] Our current decision maintains the status quo with respect to the number of channels available exclusively for public safety. In addition, our decision implements one of the Commission's statutory mandates under the Communications Act of ``promoting safety of life and

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[105] APCO Comments at 2.

[106] AMTA Comments at 11-12.

[107] Comtech is a nationwide, commercial 220 MHz licensee, a holder of several non-nationwide authorizations, and a manager of the facilities of other non-nationwide 220 MHz licensees.

[108] Johnson Comments at 4; *cf.* Comtech Comments at 4.

[109] Comtech Comments at 4-5.

[110] We note that pursuant to the *Report and Order* in PR Docket No. 92-235, we are considering the realignment of the radio services encompassed by Subparts B and C of Part 90 of our Rules. If such a realignment is adopted, modifications may be made to the rules adopted herein with regard to the licensing of these channels. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, Report and Order and Further Notice of Proposed Rulemaking, 10 FCC Rcd 10076 (1995) (*Refarming Report and Order*).

[111] The Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket No. 96-86, Notice of Proposed Rulemaking, 11 FCC Rcd 12460 (1996) (*Public Safety NPRM*).

property through use of wire and radio communication."[112] Because we are designating these 10 channels for use by Public Safety eligibles only, these channels will not be subject to competitive bidding. The Commission's authority to use competitive bidding to select among mutually exclusive applications does not extend to these public safety channels because the principal use of the spectrum will not be for the provision of services to subscribers in exchange for a fee.[113]

62. In the *220 MHz Report and Order* we indicated that, after five years, we would ``assess public safety use of this limited set-aside with a view to reassigning this spectrum if it is underutilized."[114] Due to the freeze on the acceptance of initial 220 MHz applications, in effect since May 24, 1991, it has not been possible to accurately evaluate use of these channels by the public safety community. We shall therefore conduct the assessment of the use of these channels at the end of the three-year period following the effective date of the rules adopted in this proceeding, and if we determine that these channels are underutilized, then we will initiate a proceeding to address designation of the channels for other uses. With regard to Comtech's recommendation that public safety licensees be prohibited from reselling excess capacity on their systems, we conclude that it would be best, at this time, to defer this issue to our upcoming proceeding that will deal broadly with matters relating to Public Safety.[115]

63. Under the rules adopted in the *220 MHz Report and Order*, all 10 of the public safety mobile frequency channels may be used by public safety eligibles for mobile or portable use on a shared basis.[116] Authorizations for base/mobile and base/portable operations on the public safety channel pairs, however, are assigned on an exclusive basis. We believe that the possibility of allowing a single licensee within a particular geographic area to exercise exclusive control over all of the available channels in that area would defeat the purpose of our allocation of these channels for mutual aid use. We therefore will assign five of the 10 channel pairs, Channels 161-165, on a non-exclusive, *i.e.*, shared basis, to all public safety eligibles. Licensees operating on these channels in a given geographic area will coordinate amongst themselves to locate base stations to maximize interoperability. Under this allocation scheme, the public safety licensees within a particular geographic area will be able to share Channels 161-165 and coordinate the location and operation of base stations on these channels, which will enable them to communicate more effectively with each other during emergencies. We will assign the remaining base station five-channel pairs -- Channels 166-170 -- to individual licensees on an exclusive basis, with licensees on such frequencies authorized to construct a base station for base/mobile and base/portable

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[112] Section 1 of the Communications Act, 47 U.S.C. § 151.

[113] Communications Act, § 309(j), 47 U.S.C. § 309(j).

[114] *220 MHz Report and Order*, 6 FCC Rcd at 2360 (para. 27).

[115] In the Public Safety Notice of Proposed Rulemaking, we sought comment on whether exclusivity or leasing of excess public safety spectrum capacity would be a feasible means of increasing efficiency of spectrum use. *See Public Safety NPRM*, 11 FCC Rcd at 12489 (para. 81). We want to fully examine and analyze the comments in that proceeding before addressing the issue of whether public safety entities should or should not be permitted to lease excess capacity.

[116] Section 90.720 of our Rules permits Public Safety entities to operate mobile and portable stations -- under certain conditions, as specified in Section 90.720(a) -- on any of the Public Safety channels, without separate authorization. 47 C.F.R. § 90.720.

operations.[117] Procedures for the assignment of these channels are contained in Section IV.B.2.d(2), *infra*. In addition, the existing requirement, under Section 90.713(d), that an applicant for authorization on the public safety/mutual aid channels may not have an interest in more than one pending application for public safety/mutual aid channels in the same geographic area will apply only to applicants seeking authorization on Channels 166-170. Finally, in accordance with the provisions of Section 90.720(a), we will continue to permit operation, without separate authorization, on all 10 public safety/mutual aid channels, by public safety eligibles using the channels in mobile or portable radios and, in accordance with Section 90.720(b), we will continue to require base/mobile and base/portable operations on all 10 channels to be on a secondary basis to the emergency communications that are identified in that section.

(2) Assignment of EMRS Channels (Channels 181-185)

(a) *Proposal*

64. In the *Third Notice* we proposed to continue to allocate five non-nationwide channels (Channels 181-185) for use by eligibles in the Emergency Medical Radio Service (EMRS), ``in order to provide spectrum for licensees involved in the delivery of emergency medical services."[118] We also asked for comment regarding whether we should combine the 10 Public Safety channels and five EMRS channels into a single 15-channel allocation and allow EMRS and all other Public Safety entities to be eligible for these 15 channels. If we were to adopt a single, 15-channel allocation for both EMRS and Public Safety eligibles, we asked further if we should modify our existing allocation scheme to designate Channels 171-180 as the Public Safety channels so that these channels would be contiguous with the EMRS channels.[119]

65. We also indicated in the *Third Notice* that, before accepting applications for the Public Safety and EMRS channels, we would act on a Petition for Reconsideration of our 1993 *EMRS Report and Order* establishing the Emergency Medical Radio Service.[120] This petition, filed by Dr. Michael Trahos (Trahos), asked that we allow certain entities authorized in the Special Emergency Radio Service (SERS) under Part 90 of our rules (*e.g.*, physicians, disaster relief organizations, *etc*.) to be eligible to operate on the 10 Public Safety channels.[121]

66. Finally, we also noted in the *Third Notice* that the American National Red Cross (Red

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[117] There is one licensee currently authorized to operate exclusively on the 220 MHz public safety channels for base/mobile operations. That licensee, call sign WPCC439, is authorized on Channels 161-165, which are to be shared channels under our Phase II rules. We will therefore continue to allow this licensee to retain its exclusive authorization on Channels 161-165 to conduct base/mobile operations.

[118] *Third Notice*, 11 FCC Rcd at 214 (para. 46). *See* Section 90.27(a) of the Commission's Rules, 47 C.F.R. § 90.27(a).

[119] *Third Notice*, 11 FCC Rcd at 214 (para. 46).

[120] *Id*. at 214 (para. 48).

[121] Petition for Reconsideration of EMRS Report and Order filed by Dr. Michael C. Trahos, April 2, 1993. *See* Public Notice, Report No. 1936, April 27, 1993.

Cross) had filed a petition for rulemaking seeking eligibility for disaster relief organizations to use the 220 MHz Public Safety channels, and also requesting further modification of our rules to expand the ways in which disaster relief organizations could use the Public Safety channels.[122] Specifically, the Red Cross asked that disaster relief organizations be permitted to use the Public Safety channels, *inter alia*, for the establishment and maintenance of temporary relief facilities, and for limited training exercises incidental to emergency communications plans.[123] Further, the Red Cross proposes that, due to its view that the public safety channels have been underutilized by public safety entities,[124] disaster relief organizations should be given exclusive authority to use such channels.[125] In the alternative, the Red Cross asks that, if use of the public safety channels is to be shared among disaster relief organizations and other public safety eligibles, then the disaster relief organizations should be permitted to ``pre-empt" use of the frequencies ``at the locations of disaster relief efforts"[126] or that 10 channels in another band, such as the 800 MHz band, be allotted for disaster relief organizations.[127] We asked for comment on the Petition for Rulemaking of the Red Cross.

(b) *Decision*

67. There were no comments discussing our proposal to continue to designate Channels 181-185 for use by EMRS eligibles, or our request for comment on making these channels available to all Public Safety eligibles. We will therefore continue to designate channels 181-185 for the exclusive use of EMRS eligibles.[128] As explained above with respect to Public Safety channels, we believe that it is in the public interest to continue to reserve five channels for use by EMRS eligibles, without requiring EMRS applicants to compete with applicants wishing to use the spectrum for commercial offerings. This decision will further the Commission's mandate under the Communications Act to ``promote safety of life and property through use of wire and radio communication."[129] As currently provided in Section 90.713(d) of our rules with regard to applicants for other categories of non-nationwide channels (*e.g.*, trunked, data-only, public safety/mutual aid), we will require that no applicant may have an interest in more than one pending application for authorization on EMRS channels within a particular geographic area.

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[122] *Third Notice*, 11 FCC Rcd at 215 (para. 49). *See* Petition for Rulemaking, filed by the American National Red Cross, Mar. 2, 1994 (Red Cross Petition).

[123] Red Cross Petition at 10.

[124] *Id*. at 13.

[125] *Id*. at 10.

[126] *Id*. at 10-11.

[127] *Id*. at 14.

[128] We note that pursuant to the *Refarming Report and Order*, 10 FCC Rcd 10076, we are considering the realignment of the radio services encompassed by Subparts B and C of Part 90 of our Rules. If such a realignment is adopted, modifications may be made to the rules adopted herein with regard to the licensing of these channels.

[129] Section 1 of the Communications Act, 47 U.S.C. § 151.

Also, there were no comments with regard to our proposal to assign the EMRS and Public Safety channels contiguously (*i.e.*, on Channels 171-185). We believe that there are two advantages to maintaining the current channel assignment scheme:

- Existing, Phase I licensees currently operating mobile or portable radios on these channels will be able to communicate with Phase II licensees.

- Equipment manufacturers that have built mobile or portable units on these channels for Phase I licensees will be able to assemble these units for Phase II licensees without having to employ a different set of frequencies.

Based upon these considerations, we conclude that we should continue to assign the Public Safety channels on Channels 161-170.

68. With regard to the Trahos Petition, we note that we adopted an Order dealing with the various petitions for reconsideration of the *EMRS Report and Order* on January 18, 1996.[130] In that proceeding, we granted the Trahos petition, and modified Section 90.720(a) of the Commission's Rules to permit individuals eligible to be licensed under Sections 90.35 (medical services), 90.37 (rescue organizations), 90.41 (disaster relief organizations), and 90.45 (beach patrols) to be authorized to operate mobile and portable units on the 10 public safety channels, without separate authorization, and modified Section 90.720(b) of the Commission's Rules to allow such individuals to obtain authorization for base/mobile and base/portable operations on these channels.[131]

69. With regard to the Red Cross Petition,[132] we decided in the *EMRS Reconsideration Order*, as discussed above, that Public Safety eligibles and certain licensees eligible in the Special Emergency Radio Services (SERS), including disaster relief organizations, should be permitted, under Section 90.720(a) of the Commission's Rules, to operate mobile and portable radios on the 220 MHz public safety channels, without the need for separate authorization, to transmit communications: (1) relating to the immediate safety of life; or (2) to facilitate interoperability among public safety and the designated SERS entities. We recognize, however, that disaster relief organizations have unique requirements.[133] We will therefore amend Section 90.720(a) to allow disaster relief organizations to employ the 220 MHz public safety channels in the various non-emergency situations the Red Cross has identified.

70. We will not, however, confer on disaster relief organizations exclusive authority to operate on these channels or the authority to preempt other public safety users at the locations of disaster relief efforts. The 220 MHz public safety channels were intended to be used for

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[130] Amendment of Part 90 of the Commission's Rules to Create the Emergency Medical Radio Service, PR Docket No. 91-72, Memorandum Opinion and Order, 11 FCC Rcd 1708 (1996) (*EMRS Reconsideration Order*).

[131] *Id*. at 1712 (para. 23).

[132] No comments addressing the Red Cross Petition were filed.

[133] Red Cross Petition at 9-10 (noting that the more than 2,600 chapters of the Red Cross need channel use for training exercises and operational communications preparatory to disaster relief).

interoperability by all entities involved in responding to emergencies, and we therefore do not believe that it would be appropriate to permit only one such entity to have exclusive use of the channels during emergencies. We disagree with the Red Cross's assertion that because only a limited number of public safety eligibles applied for base station authorizations on the public safety channels, this indicates that public safety entities will not have a need for these channels, especially in times of emergency. As explained above, public safety licensees are permitted to use the channels for mobile and portable communications without the need for separate authorization. Thus, the need by public safety entities for the 220 MHz Public Safety channels cannot necessarily be measured by the number of applications received for base and mobile or base and portable authorizations when such applications were accepted in 1991.[134] We therefore conclude that all licensees eligible to use the 220 MHz public safety channels under Section 90.720, as amended, will be required to share the use of the channels.

71. Finally, we turn to the suggestion made by the Red Cross that we consider the allocation of channels in a different band to create a nationwide allotment of 10 channels for use by disaster relief organizations.[135] We have concluded that there is not a sufficient basis on the current record to adopt the approach advanced by Red Cross. We therefore deny this part of the Red Cross Petition, for the following reasons. First, the Red Cross, in advancing its proposal, has not provided sufficient criteria with which to weigh the merits of competing claims for spectrum allocations in the bands identified in the Red Cross Petition.[136] We do not believe that this proceeding, with its focus on licensing and service rules for services in the 220 MHz band, is an appropriate forum in which to examine and decide allocation issues affecting the utilization of other spectrum bands by incumbent or future service providers.[137] Our conclusion in this regard has been reinforced by the fact that no party has commented on the Red Cross' suggestion that we expand this proceeding to identify additional spectrum to address the concerns raised by the Red Cross in its petition.

72. Second, we believe that by authorizing disaster relief organizations to operate on the 220 MHz Public Safety channels on a shared basis with other members of the public safety community, we have satisfactorily addressed the emergency communications needs of such organizations. Further, by permitting use of the channels for the various non-emergency situations identified by the Red Cross, we enable disaster relief organizations to satisfy their unique communications requirements.

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[134] On May 1, 1991, the Commission began accepting applications for licenses in the 220-222 MHz band. On May 24, 1991, the Private Radio Bureau suspended the acceptance of such applications. *See* Acceptance of 220-222 MHz Private Land Mobile Applications, Order, 6 FCC Rcd 3333 (Priv. Rad. Bur. 1991). The continuing freeze on the acceptance of 220 MHz applications has made it even more difficult to assess whether public safety entities have need for the use of the 220 MHz Public Safety channels.

[135] Red Cross Petition at 14.

[136] *See id*. (suggesting the allocation of channels in certain 800 MHz bands).

[137] We note that the Commission is considering the future spectrum needs of all public safety entities in our Public Safety proceeding. *See Public Safety NPRM*, 11 FCC Rcd 12460.

(3) Data-Only Channels (Channels 186-200)

(a) *Proposal*

73. In the *Third Notice*, we proposed to eliminate the ``data-only'' designation for Channels 186-200.[138] As indicated in the *220 MHz Report and Order*, this designation includes ``analog non-voice transmissions'' or ``any digital transmission, voice or non-voice.''[139] We also stated our belief that it is not necessary to continue to mandate ``data-only'' operations by the approximately 300 Phase I licensees authorized on these channels, and we therefore proposed that Phase I licensees authorized on these channels be permitted to construct non-``data only'' systems.

(b) *Decision*

74. Currently, there are no rules that restrict 220 MHz licensees from transmitting ``data-only'' signals on 220 MHz channels in general, but licensees are required to transmit ``data-only'' signals on certain 220 MHz channels. The comments favor elimination of the ``data-only'' transmission requirement on these channels.[140] As stated in the *Third Notice*, we believe that in today's communications marketplace there will be sufficient demand for non-voice communications and services using digital modulation for voice communications, and therefore it is not necessary for us to allocate channels exclusively for data and digital operations. Thus, in Phase II licensing of the 220 MHz service, we will no longer reserve channels for data-only use. Furthermore, upon the effective date of the rules adopted in this proceeding, we will not require Phase I licensees authorized on Channels 186-195 to operate ``data-only'' systems. Phase I licensees currently authorized to operate on Channels 186-195 and who wish to operate non-data-only systems will therefore, upon the effective date of the rules adopted in this proceeding, be permitted to do so. Such licensees, however, will still be required to meet their deadline to construct their base station and place it in operation, or commence service, as prescribed in the *220 MHz Second Report and Order*.

c. *Assignment of the Remaining 125 Non-Nationwide Channels*

75. Having adopted rules for the Phase II licensing of the Public Safety and EMRS channels, we now turn to the licensing of the remaining 125 non-nationwide channels (*i.e.*, the 100 channels currently allocated for five-channel trunked operations, Channels 171-180, and Channels 186-200).

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[138] *Third Notice*, 11 FCC Rcd at 215 (para. 50).

[139] *220 MHz Report and Order*, 6 FCC Rcd at 2362 (paras. 40, 43).

[140] *See* Pagemart Comments at 3, Johnson Comments at 4, and Kelley Comments at 2.

(1) Initiation of Phase II Licensing

76. In the *Third Notice*, we addressed the appropriateness of proceeding at this time with Phase II licensing of the 220-222 MHz band. We noted that some of the comments in response to the *CMRS Further Notice* contended that we should not proceed with the next phase of licensing the non-nationwide 220 MHz channels until the operation of our existing licensing approach could be adequately assessed.[141] We believed, however, that we should not delay the acceptance of new applications for 220 MHz spectrum while we evaluated the utility of our existing licensing scheme. We therefore tentatively concluded that we should initiate the second phase of licensing of the non-nationwide channels. There were no comments on this issue in response to the *Third Notice*. We conclude, therefore, that we should proceed in this Order with the initiation of Phase II licensing of the 220-222 MHz band. As stated in the *Third Notice*, this action will enable ``more widespread and varied services'' to be made available to the public.[142]

(2) Eligibility

77. Currently, the 125 non-nationwide 220 MHz channels are available to applicants intending to provide subscriber-based services as well as applicants intending to use spectrum for their internal use. In the *Third Notice*, we proposed to continue to make these channels available in the second phase of licensing on an equal basis to all such applicants.[143] AMTA supports the licensing of the 125 channels for ``either commercial or non-commercial operations . . . .''[144] We conclude that applicants intending to provide subscriber-based services as well applicants intending to use spectrum for their internal use should be eligible to obtain authorizations on licenses associated with the 125 channels. All licensees authorized on these channels will also be permitted, but not required to provide interconnected service.

(3) Licensing Areas

(a) *Proposal*

78. Under our existing rules non-nationwide 220 MHz licensees are authorized on a site-by-site basis. In the *Third Notice*, however, we likened the Phase II 220 MHz service to other CMRS services (*e.g.*, narrowband PCS and 900 MHz SMR) and noted our tentative view that the 220 MHz service should be licensed within defined, geographic areas, rather than the current single-station approach. We therefore proposed that Phase II licensees authorized on the 125 non-nationwide channels be permitted to provide service within prescribed, Commission-defined geographic areas. These areas are: (1) the 172 geographic areas defined as ``Economic Areas'' (``EAs'') by the Bureau of Economic Analysis (BEA), Department of Commerce (``EA

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[141] *See, e.g.*, SEA Comments at 14-15.

[142] *Third Notice*, 11 FCC Rcd at 218 (para. 56).

[143] *Id*. at 218 (para. 57).

[144] AMTA Comments at 11.

licenses");[145] and (2) the geographic areas defined by five geographic regions described in the *Third Notice* (``Regional licenses").

(b) *Comments*

79. Commenters generally favor our proposal to license the 220 MHz band in EAs and Regions.[146] AMTA endorses licensing over these ``two distinct geographic areas," stating that it favors the use of EAs over MTAs and BTAs because ``EAs more closely approximate the coverage required by a typical consumer of a traditional two-way radio system than do either MTAs or BTAs."[147] Pagenet asserts that EA *and* Regional licensing would be a ``complement to nationwide" licensing, and would allow ``participation by small, medium and large carriers in which local to nationwide service will be provided by a number of different licensees in each marketplace."[148] Both AMTA and Comtech also request that no limit be placed on the number of channels a licensee may obtain within an EA or Region through the auction procedures.[149]

(c) *Decision*

80. In proposing these different-sized licensing areas, we indicated that these geographic areas would provide Phase II licensees with the opportunity to provide different types of service offerings, which would help them compete effectively with licensees in other communications services. We continue to believe that such a licensing approach will provide for the widest variety of communications services and, as Pagenet indicated, would allow for different-sized carriers to enter the 220 MHz marketplace. The participation in this marketplace by a variety of entities will also promote one of the objective's of Section 309(j) of the Act -- that of disseminating licenses among a wide variety of applicants. We will therefore license Phase II 220 MHz channels in EAs and Regions. As indicated in the *Third Notice*, under this licensing approach, Phase II licensees authorized in these geographic areas will be permitted to operate any number of base stations within their authorized area without being required to obtain a separate authorization for each station. However, in an effort to ensure that EA and Regional licensees and co-channel Phase I licensees will be able to co-exist, we will require 220 MHz EA and Regional licensees -- as we

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[145] The BEA has divided the Nation into regional economic areas that consist of metropolitan areas that are centers of economic activity and their economically-related surrounding counties. In February 1995, BEA concluded a redefinition of the areas based on newly available information on commuting patterns and adopted a new configuration of 172 EAs. *See* Proposed Redefinition of the BEA Economic Areas, 59 Fed. Reg. 55,416 (Nov. 7, 1994); Final Redefinition of the BEA Economic Areas, 60 Fed. Reg. 13,114 (Mar. 10, 1995). *See also* K. Johnson, ``Redefinition of the BEA Economic Areas," *Survey of Current Business*, Feb. 1995, at 75-81. We proposed to adopt BEA's list of 172 EAs to define the smallest geographic areas for Phase II licenses because of the accuracy of the redefined list in reflecting the current major markets on a local and regional basis.

[146] *See* Johnson Comments at 4; Pagenet Comments at 3; AMTA Comments at 11-12.

[147] AMTA Comments at 12, n.19.

[148] Pagenet Comments at 3.

[149] Comtech Comments at 9-10; AMTA Comments at 11.

required for 800 MHz SMR EA licensees[150] -- to provide us with notification, on a Form 600, of the technical parameters of all base stations and fixed stations.[151] EA and Regional licensees will also be required to notify us if such stations are added, removed, relocated, or otherwise modified. If such notification is provided within 30 days of station addition, removal, relocation or modification, no filing fee will be required. EA and Regional licensees must also ensure that: (1) they operate their stations in accordance with the provisions of Sections 1.1301 through 1.1319 of our Rules (Procedures Implementing the National Environmental Policy Act of 1969); (2) they operate their stations in compliance with their air safety responsibilities, as outlined in Part 17.6 of our Rules; and (3) they comply with all applicable international agreements (*e.g.*, Section 90.715 relating to operation in U.S./Mexican border areas). We also clarify that -- as we similarly provided in the *800 MHz SMR Report and Order* with regard to the channels of incumbent 800 MHz SMR licensees[152] -- if any channels of a Phase I licensee authorized in a particular EA or Region are recovered by the Commission, such channels will automatically revert to the EA or Regional licensee authorized on the channels in that EA or Region. Finally, as we indicated in the context of nationwide licensing, we believe that because 220 MHz licensees will be in competition with other communications services, such as narrowband PCS and SMR, we should allow them to obtain multiple authorizations in their EA or Region.

81. We provide a list of the codes and names for the Economic Areas in Appendix D. In response to a request by Puerto Rico Telephone Company in its comments in this proceeding, asking that we provide EA-like areas for U.S. territories,[153] we add three additional EA-like licensing areas for the 220 MHz service: EA 173 (Guam and the Northern Mariana Islands); EA 174 (Puerto Rico and the U.S. Virgin Islands); and EA 175 (American Samoa). Finally, while commenters did not address our proposed definitions for Regional licenses, we have examined our original proposal and have decided to create six Regions, rather than the five Regions proposed in the *Third Notice*. We believe that the six Regions identified in Appendix E[154] are more closely aligned with major areas of economic interest than the proposed five Regions. Also, licensing in six Regions instead of five Regions will potentially enable more providers to enter the 220 MHz service marketplace.

(4) Channel Allocation Plan

(a) *Proposed Band Plan*

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[150] 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, Implementation of Sections 3(n) and 322 of the Communications Act Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463, at 1498 (para. 52) (1995) (*800 MHz SMR Report and Order*).

[151] See Section IV.C.1, *infra*. for discussion of our decision to permit fixed operations in the 220-222 MHz band.

[152] *800 MHz SMR Report and Order*, 11 FCC Rcd at 1501 (para. 59).

[153] Puerto Rico Telephone Company Comments at 2.

[154] The six geographic areas for Regional 220 MHz licensing are referred to as Regional Economic Area Groupings (REAGs). See Appendix E.

82. In the *Third Notice*, we proposed the following band plan for non-nationwide Phase II licensing:

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN

EA BLOCK	CHANNELS
Channels 61-70	10
Channels 71-80	10
Channels 91-100	10
Channels 101-110	10
Channels 121-125	5
Channels 126-130	5
Channels 131-135	5
Channels 136-140	5
TOTAL	**60**

REGIONAL BLOCK	CHANNELS
Channels 171-180	10
Channels 186-200	15
Channels 1-10	10
Channels 11-20	10
Channels 31-50	20
TOTAL	**65**

83. In proposing this band plan, we sought to provide sufficient spectrum for all types of EA and Regional licensees to meet their communications needs. We also proposed a band plan that is comprised entirely of channel assignments involving contiguous channels. This proposal was a significant departure from the Phase I channel assignment scheme for the 125 non-nationwide channels, which contained only two contiguous channel blocks, *i.e.*, Channels 171-180 and 186-200, but provided 20 five-channel assignments consisting of channels spaced 150 kHz apart from one another.[155]

84. In the *Third Notice*, we also proposed to allow both Phase I and Phase II licensees to aggregate their contiguous channels to operate on channels wider than 5 kHz, and proposed to permit Phase I and Phase II licensees to operate paging systems on a primary basis. Our review of the resulting record indicates that developing the optimal band plan must take four elements into account: providing sufficient spectrum so that licensees will have operational flexibility;

[155] For example, the 5-channel group identified as ``Group No. 10" consists of Channels 10, 40, 70, 100, and 130. *See* Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

assigning some amount of spectrum on contiguous channel blocks; permitting aggregation of contiguous channels; and allowing paging operations on a primary basis. In the discussion that follows, we will focus on each of these four elements and explain and analyze how our consideration of each element has led us to adopt our Phase II band plan, which differs from the band plan proposed in the *Third Notice*.

(b) *Adopted Band Plan*

(i) Number of EA and Regional Channels

i. *Proposal*

85. In the *Third Notice*, we noted that Phase I licensees are authorized to use up to five channels, but we indicated that Phase II licensees operating in EAs, which would encompass areas larger than the areas covered by existing Phase I single stations, would likely have a requirement for more than five channels. We also observed that some Phase II licensees, particularly those intending to use the spectrum for their internal purposes, might not have a need for more than five channels, even if those channels are used in an area the size of an EA.[156] To accommodate the spectrum requirements of all potential EA licensees, we proposed to authorize Phase II EA licenses in five- and 10-channel blocks. We also indicated that Regional licensees, who will be offering communications services to much larger geographic areas, should be authorized on a larger number of channels, and we therefore proposed that Regional licenses be assigned in 10-, 15- and 20-channel blocks. Finally, we indicated that EA and Regional licensees needing less spectrum than provided through these particular authorizations could assign channels to other licensees in accordance with our partitioning proposals.[157]

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[156] *Third Notice*, 11 FCC Rcd at 221 (para. 63).

[157] *Id*.

ii. *Comments; Decision*

86. Most commenters favor the assignment of larger numbers of channels to individual licensees than proposed. For example, Comtech opposes the use of 5-channel blocks, saying that in its experience as a non-nationwide licensee, ``[l]icensees cannot produce sufficient revenues with only five channels to justify the investment required to construct a [base station] facility," whereas the ``incremental costs of installing an additional five channels . . . allow for the production of sufficient revenue."[158] One commenter, Pagenet, supports the proposed band plan, stating that it ``should allow . . . licensees to compete in the CMRS marketplace by offering a variety of PCS-type, one-way, two-way, data and other services."[159] AMTA suggests that the EA channels should be assigned in three 15-channel blocks and two 10-channels blocks;[160] while PCIA proposes one 5-channel block, two 10-channel blocks, one 15-channel block, and one 20-channel EA block.[161] With regard to Regional licenses, AMTA favors the assignment of two 30-channel blocks; and PCIA proposes one 10-channel block, one 15-channel block and two 20-channel blocks. Based on the comments, we conclude that it would be best to generally provide more channels to both EA and Regional licensees than initially proposed.

(ii) Contiguous Channel Blocks

i. *Proposal*

87. In the *Third Notice* we addressed the matter of whether Phase II licenses should be authorized on contiguous or non-contiguous channel assignments. We noted that when we proposed the original 220-222 MHz band plan in the *220 MHz Notice*,[162] we had explored this issue, and observed that we could authorize 220 MHz channel assignments in a manner similar to the way we authorized channels in the 900 MHz band -- where we adopted a contiguous channel assignment scheme to ``provide increased flexibility to employ spectrum efficient digital systems that may become available in the near future."[163] We indicated, however, that, in the *220 MHz Report and Order*, we had determined that increasing spectrum efficiency was more important than providing for such flexibility, and therefore adopted a non-contiguous channel assignment scheme, which enabled spectrally efficient trunking technology to be more easily implemented.[164] We tentatively decided in the *Third Notice* that ``the possible benefits that could be obtained from enabling licensees to employ contiguous channels, *e.g.*, the ability to employ spectrum efficient

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[158] Comtech Comments at 5.

[159] Pagenet Comments at 9-10.

[160] AMTA Comments at 15.

[161] PCIA Comments at 9.

[162] *220 MHz Notice*, 4 FCC Rcd at 8597 (para. 27).

[163] *900 MHz Allocation Order*, 2 FCC Rcd at 1835 (para. 74). Digital systems that employ Time Division Multiple Access (TDMA) technology, for example, would likely require channels wider than 5 kHz and thus the aggregation of 5 kHz channels would likely be necessary to enable the use of this technology.

[164] *220 MHz Report and Order*, 6 FCC Rcd at 2358 (para. 16).

digital systems, outweigh the potential technical or economic advantages of developing narrowband trunking systems,"[165] and we thus proposed a Phase II band plan consisting entirely of contiguous channel assignments.[166]

ii. *Comments*

88. Commenters are generally opposed to our proposed band plan because of our use of contiguous channel assignments. A number of commenters, for example, express concern that if we adopt the proposed band plan, Phase I licensees that wish to expand on their non-contiguous channels would have to acquire multiple Phase II assignments; and Phase II licensees that acquire contiguous channel blocks would be required to provide co-channel protection to many Phase I licensees in order to implement their systems.[167] SEA, an equipment manufacturer, also expresses concern about the technical disadvantage of employing contiguous channels when implementing ``same-site" systems on narrowband channels.[168] E.F. Johnson, however, does not foresee significant problems with the production of equipment using contiguous, as opposed to interleaved, channels. It notes that there have been problems associated with the use of antenna combiners on interleaved trunked channels, but does not expect this problem to be exacerbated by the use of contiguous channels.[169] PCIA, on the other hand, states that ``combining any number of contiguous channels together can result in significant power loss in the system using the required hybrid combiners" and contends that this problem increases with the number of channels being combined.[170]

89. PCIA and other commenters generally recommend that we maintain the existing band plan, which provides for 20 non-contiguous channel assignments (the current ``trunked" channel assignments) and 10- and 15-channel contiguous assignments (the current ``non-trunked, individual" channels on Channels 171-180 and 186-200).[171] Similarly, AMTA urges us to retain, ``to the maximum extent possible," the existing channel assignment scheme.[172] SEA, while opposed to contiguous channel assignments, proposes a compromise band plan that is derived from the current twenty 5-channel, non-contiguous 5 kHz channel assignments, and contains an

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[165] *Third Notice*, 11 FCC Rcd at 222 (para. 65) (footnote omitted).

[166] *Id*.

[167] SEA Comments at 2-3; PCIA Comments at 6-7; Securicor Comments at 4.

[168] SEA Reply Comments at 2.

[169] E.F. Johnson Comments at 5.

[170] PCIA Comments at 7.

[171] PCIA Comments at 8.

[172] AMTA Comments at 14. *See also* Incom's Reply Comments, supporting this proposal. Incom Reply Comments at 4.

assortment of EA and Regional assignments consisting of 5 kHz, 10 kHz, and 20 kHz channels.[173]

iii. *Decision*

90. Several commenters point out the difficulties that are likely to be encountered by both Phase I licensees and Phase II licensees if we adopt completely inconsistent Phase II and Phase I band plans. We are concerned that a Phase II licensee operating on a contiguous 10-channel block, consisting of Phase I channels assigned on a non-contiguous basis, could be required to provide co-channel protection to 10 or more Phase I licensees operating in its EA and to an even greater number of Phase I licensees in its Region. For example, a Phase II EA licensee authorized on the proposed channel block consisting of Channels 61-70 could have to protect 10 or more Phase I licensees authorized on Phase I trunked channel Group Nos. 1-10.

91. We therefore conclude that adopting a band plan consisting entirely of contiguous channel assignments could inhibit the ability of many Phase II licensees to implement their systems. We therefore find that the best resolution of this issue is to adopt a band plan patterned after the existing channeling scheme -- *i.e.*, a combination of non-contiguous *and* contiguous channel assignments. We also note that in this Order we are adopting partitioning for Phase II EA, Regional and nationwide licensees[174] and are proposing to allow all 220 MHz licensees to disaggregate their spectrum.[175]

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[173] SEA proposes four EA assignments (5 kHz each) -- derived from channel Groups 17, 18, 19, and 20; four EA assignments (10 kHz each) -- derived from channel Groups 9 and 10, 11 and 12, 13 and 14, and 15 and 16; two Regional assignments (10 kHz each) derived from channel Groups 1 and 2, and 3 and 4; and one 20 kHz Regional assignment derived from channel Groups 5, 6, 7, and 8. (The channel Groups indicated in this assignment plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3," *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.) SEA Comments at 4.

[174] See para. 308, *infra*.

[175] See para. 321, *infra*.

(iii) Paging on a Primary Basis

i. *Proposal*

92. In the *Third Notice*, we indicated that our current rules permit 220 MHz licensees to operate paging systems only on an ancillary basis to the licensee's primary land mobile operations, and we proposed to allow Phase I and Phase II 220 MHz licensees to provide paging communications on a primary basis.[176] In making this proposal, we noted that in recent years we had allocated or expressed the intention of allocating increasing amounts of spectrum for regional and nationwide paging operations -- *e.g.*, narrowband PCS spectrum -- which will likely be used for advanced paging services.[177] Because of this, we reasoned that removing the current restriction on paging in the 220 MHz band would not have a significant adverse effect on the development of the 5 kHz industry by turning the band into one primarily used for paging services. We tentatively concluded, instead, that allowing paging operations on a primary basis in the 220 MHz band would enable 220 MHz licensees to compete more effectively in the mobile communications marketplace with wireless providers in other bands.[178]

ii. *Comments*

93. SEA is opposed to allowing paging in the 220 MHz band. It argues that there is no shortage of other paging spectrum and that ``[t]he higher potential for this band as originally envisioned by the Commission should not be squandered by allowing it to become just one more band for the provision of paging services."[179] Other commenters generally support removing the restrictions on paging operations in the 220 MHz band.[180] E.F Johnson, while not opposed to paging operations, is concerned that such permitted use of the 220 MHz band may ``dilute the development of narrowband trunked systems."[181] Pronet does not object to our permitting Phase II licensees to provide paging on a primary basis, but opposes allowing Phase I licensees to have this flexibility. Pronet suggests that allowing Phase I licensees to provide paging on a primary basis would ``confer an enormous and unfair advantage on Phase I licensees, while inflicting substantial competitive harm on operators licensed to provide paging in the 150, 450 and 900

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[176] *Third Notice*, 11 FCC Rcd at 231 (para. 85).

[177] Amendment of the Commission's Rules To Establish New Narrowband Personal Communications Services, GEN Docket No. 90-314, First Report and Order, 8 FCC Rcd 7162 (1993) (*Narrowband PCS Order*).

[178] *Id.*

[179] SEA Reply at 6.

[180] AMTA Comments at 18; Comtech Comments at 9 (seeking assurance that paging operations will apply to Phase II *and* Phase I licensees); Overall Wireless Comments at 2; Kelley Comments at 3; PageNet Comments at 12; Metricom Comments at 3.

[181] E.F. Johnson Comments at 6.

MHz bands."[182]

94. In its reply comments, Comtech asks that we reject Pronet's arguments, contending that the Commission's mandate is to protect competition, not competitors.[183] Metricom, in disagreeing with SEA's position, states that:[184]

> [W]hether or not there is adequate spectrum for paging is irrelevant to the issue of whether paging should be permitted in the 220 MHz band. The real issue is whether licensees should be allowed to provide the services consumers desire. . . . [I]f adequate spectrum exists for paging, and ample paging services are being offered to the public, then there would not be a market for paging services in the 220 MHz band and licensees would have little, if any incentive to offer such services.

In arguing against Pronet's position, Metricom contends that no unique windfall will accrue to Phase I licensees, and that such licensees would receive no more windfall than licensees who provide paging on other spectrum that was not auctioned.[185]

iii. *Decision*

95. Commenters are divided on the issue of whether we should allow 220 MHz licensees to operate paging systems on a primary basis. SEA, for example, is concerned that if we were to permit paging on a primary basis, the 220-222 MHz band could become merely an additional band for the provision of paging services.[186] Other commenters favor paging operations in the band because they believe that it will provide consumers with additional options in meeting their paging needs. Pronet is concerned that it would be unfair to existing paging licensees in other bands to permit existing licensees on the 220 MHz band potentially to provide paging services.[187] In proposing to eliminate the restriction on primary paging operations in the 220 MHz band, we expressed a desire to provide additional spectrum for a rapidly growing communications service, and to enable 220 MHz licensees to compete more effectively in the wireless marketplace.[188] We continue to believe that it is appropriate to allow the marketplace to determine the services offered to consumers, and therefore we will permit Phase I and Phase II licensees to operate paging systems on a primary basis. We believe that if there is sufficient consumer demand for paging services, both Phase I and Phase II licensees should have the opportunity to provide these

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[182] Pronet Comments at 3. Pronet believes that this will occur because Phase I licensees' spectrum ``was awarded by lottery that they had the good fortune of winning, and because the Commission subsequently decided to expand 220 MHz land mobile service to include paging." Pronet Comments at 4.

[183] Comtech Reply at 7.

[184] Metricom Reply at 3.

[185] *Id*. at 6.

[186] SEA Reply at 5-6.

[187] Pronet Comments at 2-3.

[188] *Third Notice*, 11 FCC Rcd at 231 (para. 87).

services. We disagree with Pronet's argument that we should not permit Phase I licensees, in general, to operate paging systems because they acquired their spectrum through lottery at a time when paging was prohibited on a primary basis in the 220 MHz band. We agree with Metricom's assertion that 220 MHz licensees would be receiving no more ``windfall" in this regard than 150 MHz, 450 MHz and 900 MHz paging licensees that, too, acquired spectrum that was not auctioned, and therefore conclude that permitting paging on a primary basis by both Phase I nationwide and non-nationwide licensees is appropriate.

(iv) Aggregation of 5 kHz Channels

i. *Proposal*

96. In the *Third Notice* we addressed the question of whether it was necessary to continue to require that 5 kHz technology be utilized in the 220 MHz band to the *exclusion* of other technologies. We expressed the belief that our use of five kHz channels unnecessarily restricts the array of services that can be provided in the 220 MHz band and prevents other, perhaps equally spectrally efficient, technologies from being employed. We noted, for example, that time-division technology used in cellular and SMR bands may be at least as spectrally efficient as 5 kHz channels.[189] We therefore tentatively concluded that we should remove the required use of 5 kHz channels in the 220 MHz band, and allow licensees to aggregate their authorized frequencies to create wider bandwidth channels.[190] We observed that removing this restriction would, for example, allow a Phase II licensee authorized on one of the proposed 10-channel blocks to create a single 50 kHz block.

97. In drawing this tentative conclusion, we acknowledged that allowing 220 MHz licensees to aggregate their channels would be a departure from our initial decision not to allow 220 MHz licensees to ``group narrowband channels to create a wideband voice channel."[191] We noted, however, that in the *900 MHz Allocation Order*, allocating the 900 MHz private land mobile frequencies, we had decided to adopt a contiguous channel assignment scheme to ``provide increased flexibility to employ spectrum efficient digital systems"[192] and to allow 900 MHz licensees to ``combine contiguous channels;"[193] and we tentatively concluded that the flexibility we had sought for licensees in the 900 MHz band also should be available to licensees in the 220 MHz band. Enabling licensees to aggregate their 5 kHz channels, we tentatively concluded, would allow them to use their limited amount of spectrum to employ the widest

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[189] *Id*. at 229 (para. 81).

[190] We also noted that while all of the nationwide Phase I channels were assigned in contiguous channel blocks, most of the non-nationwide Phase I channels were assigned on the 5-channel trunked assignments, which are composed of non-contiguous channels. Thus, only Phase I non-nationwide licensees authorized on the individual channels (*i.e.*, Channels 161-170, Channels 171-180, and Channels 186-195) would be able to easily take advantage of this option. *Id*. at 229-30 n.128 (para. 82).

[191] *220 MHz Notice*, 4 FCC Rcd at 8597 n.49 (para. 27).

[192] *900 MHz Allocation Order*, 2 FCC Rcd at 1835 (para. 74).

[193] *Id*. at 1835 (para. 77). *See* Section 90.645(h) of the Commission's Rules, 47 C.F.R. § 90.645(h). Channels authorized in the 896-901/935-940 MHz bands under Part 90 are assigned in blocks of 10 contiguous 12.5 kHz channels.

variety of technologies to best meet the communications requirements of consumers.

ii. *Comments*

98. Several commenters disagree with our proposal to allow 220 MHz licensees to aggregate their contiguous channels, arguing that there are many other spectrum bands, such as PCS, cellular, 800 MHz SMR, and 900 MHz SMR, where digital and other technologies can and are being used, but that only in the 220-222 MHz band must 5 kHz, narrowband technology be employed.[194] These commenters, especially manufacturers of 5 kHz equipment, assert that, if we adopt this proposal, we would be abandoning our commitment to the implementation of narrowband technologies and would severely jeopardize their ability to continue to develop and market that technology.[195] Other commenters, however, support the proposal to allow the aggregation of channels, arguing that this type of flexibility will allow 220 MHz licensees to offer a wider variety of communications services and more effectively compete in the wireless marketplace.[196]

iii. *Decision*

99. We find that there is some merit to the arguments of commenters opposed to our proposal to allow licensees to aggregate their channels. There are several other spectrum bands where wider channels -- *e.g*., 12.5 kHz, 25 kHz, 30 kHz, and 50 kHz channels -- are currently employed, and within which a variety of analog and digital technologies are being used.[197] The 220-222 MHz band, however, is the only spectrum band where users must employ 5 kHz, narrowband technology.

100. In the *220 MHz Allocation Order*, we allocated this spectrum for land mobile use as a means for promoting spectrum efficient technologies, and then adopted a 5 kHz channelization plan in the *220 MHz Report and Order*. We now conclude that we should continue to support the ongoing development and implementation of narrowband, 5 kHz systems, and reaffirm our commitment to make the 220-222 MHz band a home for spectrally efficient technology. We do not believe, however, that to do this requires that we devote the entire two megahertz of spectrum in this band *exclusively* to narrowband technology. As discussed *supra*, we believe that some distribution of both contiguous and non-contiguous channel assignments in the Phase II band plan is appropriate. In order to allow the 220-222 MHz band to continue to be used to foster the development of narrowband technology, we now conclude that we should adopt a distribution of non-nationwide channel assignments consisting of *more* non-contiguous than

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[194] *See* SEA Comments at 13; PCIA Comments at 8. *See also* Securicor Comments at 11; E.F. Johnson Comments at 6.

[195] *See* SEA Comments at 9-10; SEA Reply at 5; E.F. Johnson Comments at 6; PCIA Comments at 8.

[196] *See* AMTA Comments at 18; Metricom Comments at 4; Comtech Comments at 6; Pagenet Comments at 11-12. S*ee also* Global Comments at 1 (supporting channel aggregation only for nationwide licensees), and Motorola *Ex Parte* Comments dated March 18, 1996, May 16, 1996, and July 12, 1996.

[197] These wider channels are found in the 900 MHz and 800 MHz SMR bands, the Cellular Radio band, and the narrowband PCS band. *See* Sections 90.613 (800 and 900 MHz bands), 22.905 (Cellular radio band), and 24.129 (Narrowband PCS band) of the Commission's Rules, 47 C.F.R. §§ 90.613, 22.905, and 24.129.

contiguous channel assignments.

101. Under such a channel plan, we will allow Phase I and Phase II licensees operating on the 125 non-nationwide channels to aggregate any of their contiguous channels. A licensee authorized on non-contiguous channel assignments may aggregate contiguous channels by either acquiring several such non-contiguous channel assignments or, in the future, by possibly acquiring ``disaggregated'' channels.[198] Thus, applicants for Phase II licenses on these channels will be able to seek the type of spectrum authorization that will best meet their needs -- *i.e.*, prospective licensees intending to employ a particular technology or provide a particular service that may require channels greater than 5 kHz will be able to seek one of the available contiguous channel blocks and will be able to aggregate such channels, and use them subject to our spectrum efficiency standard. Applicants who intend to construct systems using narrowband technology would have the option of obtaining *either* a non-contiguous channel assignment or a contiguous channel block. By allowing licensees to aggregate channels, the marketplace will determine the viability of 5 kHz technology, while retaining our commitment to spectrum efficiency. That is, if prospective licensees believe that implementing two-way dispatch systems on narrowband channels will be a successful business venture, then they will likely attempt to acquire the available non-contiguous channel blocks and use their authorized ten or fifteen 5 kHz channels discretely. Conversely, if prospective licensees believe that there is greater potential in operating a spectrally efficient system on contiguous channels, they will likely attempt to acquire contiguous channel authorizations and aggregate their channels.

102. Additionally, we conclude that licensees authorized to operate on the contiguously-assigned public safety/mutual aid and EMRS channels (Channels 161-170 and Channels 181-185, respectively) should not be permitted to aggregate their channels. As explained above, these channels were allocated, in part, to enable public safety entities to communicate with one another in emergencies. To permit licensees to aggregate their channels could result in some licensees employing 5 kHz technology, while others employ non-5 kHz technologies, and this could limit the interoperability we seek to achieve on these channels.

103. Based on the various considerations discussed in the preceding paragraphs, we adopt the following Phase II band plan for non-nationwide channels:

(c) *Features of the Band Plan*

NON-NATIONWIDE 220 MHz CHANNEL ALLOCATION PLAN[199]

EA BLOCK	CHANNELS

[198] See Sections V and VI, *infra*, for discussion of disaggregation.

[199] Assignments A, B, C, D, F, G, H and I are composed of channels assigned in a non-contiguous manner. Assignments E and J are composed of contiguously assigned channels.

A: Channel Groups[200] 2, 13	10
B: Channel Groups 3, 16	10
C: Channel Groups 5, 18	10
D: Channel Groups 8, 19	10
E: Channels 171-180	10
TOTAL	**50**

REGIONAL BLOCK	CHANNELS
F: Channel Groups 1, 6, 11	15
G: Channel Groups 4, 9, 14	15
H: Channel Groups 7, 12, 17	15
I: Channel Groups 10, 15, 20	15
J: Channels 186-200	15
TOTAL	**75**

104. This band plan contains a number of features that we believe will, to the extent possible, satisfy the concerns and meet the needs of most, if not all, of the parties in this proceeding. First, we authorize assignments of no less than 10 channels. This addresses the concerns of commenters who believe that more than 5 channels will be needed to enable Phase II licensees to serve their areas of operation adequately. While we believe that 10 channels are the minimum necessary to provide satisfactory service in EAs and Regions, we remain convinced that 5 channels are sufficient for Phase I licensees operating on single stations.

105. Second, we address the concerns of commenters who have observed that, under our original proposal, Phase I licensees authorized on the 5-channel, non-contiguous trunked assignments would have to acquire at least five separate Phase II authorizations in order to expand geographically on their channels. The reason that Phase I licensees would have faced this problem under our proposed band plan is that, for example, a licensee authorized on trunked channel Group No. 1 -- which includes Channels 1, 31, 61, 91, and 121 -- would have to have obtained Phase II authorizations on Channel Blocks 1-10, 31-50, 61-70, 91-100, and 121-125 in order to expand on its channels. However, under the band plan we are adopting in this Order, the EA and Regional assignments derived from the 5-channel, non-contiguous Phase I assignments are composed of groupings of two or three of these assignments (*e.g.*, EA Assignments A, B, C, and D -- each of which are composed of two 5-channel non-contiguous Phase I assignments; and Regional Assignments F, G, H, and I -- each of which are composed of three 5-channel non-contiguous Phase I assignments). Thus, Phase I licensees authorized on Group Nos. 1-20 will be able to expand on all of their channels by obtaining authorization on a single Phase II assignment (*e.g.*, a Phase I licensee authorized on Group No. 1 would, by acquiring Assignment F, be able to expand on all five of its existing channels).

106. Third, by authorizing assignments derived from the Phase I trunked groups, we

[200] The Channel Groups indicated in the allocation plan are the 5-channel, non-contiguous assignments identified as ``Group Nos. 1, 2, 3," *etc*., in Section 90.721 of the Commission's Rules, 47 C.F.R. § 90.721.

address commenters' concerns about the need of Phase II licensees to provide co-channel protection to many Phase I licensees. Under our proposed band plan, a Phase II licensee authorized on a contiguous 10- or 20-channel block derived from the Phase I trunked channels (*e.g*., the proposed EA block consisting of Channels 61-70, or the proposed Regional block consisting of Channels 31-50) would have had to potentially provide protection to a large number of Phase I licensees in their particular area of operation (*e.g.*, a Phase II licensee authorized on the EA block consisting of Channels 61-70 would have had to protect Phase I licensees authorized on channel Groups Nos. 1 through 10, if such licensees were operating in its EA or in an adjoining EA; and the Phase II licensee authorized on the Regional block consisting of Channels 31-50 would have had to protect Phase I licensees authorized on *all twenty* of the trunked channel groups, if such licensees were operating in its Region or in an adjoining Region). Under the plan we are adopting, however, Phase II licensees will potentially have to protect far fewer Phase I licensees -- *e.g*., EA licensees will only have to protect Phase I licensees in their EA, or in an adjoining EA, operating on the two channel groups that comprise their 10-channel system; and Regional licensees will only have to protect Phase I licensees in their Region, or in an adjoining Region, operating on the three channel groups that comprise their 15-channel system.

107. Fourth, we continue to allocate the 100 non-contiguous Phase I channels in the form of 5 kHz, non-contiguous channel assignments (Assignments A-D, and F-I). This will provide a number of assignments to those licensees who wish to operate 5 kHz, narrowband trunked systems and prefer to operate on channels spaced apart from each other. Licensees authorized on one of the two channel blocks consisting of contiguous channels (Assignments E and J), however, will not be precluded from operating on the individual 5 kHz channels that comprise these blocks (*e.g.*, licensees authorized on Assignment J could operate on 15 discrete 5 kHz channels instead of a single 75 kHz block), and will thus have the option of employing *either* narrowband technology or aggregating their channels to employ other technologies or to provide services that may be more easily accommodated on wider channels, consistent with our spectrum efficiency standard.

108. Fifth, our decision to continue to allocate the 100 non-contiguous Phase I channels in the form of 5 kHz, non-contiguous Phase II channel assignments largely addresses the concerns raised by SEA and PCIA regarding possible technical difficulties associated with the construction of base stations on contiguous channel blocks. We *are* allocating two Phase II assignments on contiguous channels (Assignments E and J), but the channels associated with these assignments were assigned contiguously in the *220 MHz Report and Order* -- those concerns notwithstanding.[201] Furthermore, PCIA's concern that combining up to 20 contiguous channels could result in significant power loss is alleviated to some extent by our decision to employ a maximum of only 10 and 15 contiguous channels, respectively, for Assignments E and J.

109. Finally, we conclude that our decision to license Phase II spectrum in this manner is consistent with the objectives identified in Section 309(j)(4)(C) of the Act. That is, the bandplan -- which contains both EA and Regional licenses and includes both contiguous and non-contiguous assignments -- coupled with our decision to permit paging operations on a primary basis, will enable both large and small entities to provide a wide variety of communications services to the public and promote competition in the CMRS marketplace.

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[201] *In the 220 MHz Notice*, we noted that the use of contiguous channels in the 220 MHz band would not preclude the use of trunking technology. *See 220 MHz Notice*, 4 FCC Rcd at 8597 (para. 27).

(5) Spectrum Efficiency Standard

(a) *Proposal*

110. In the *Third Notice*, we tentatively concluded that, because we had sought to encourage the development of spectrally efficient technologies at the time we initially reallocated the 220-222 MHz band, we should require licensees choosing to aggregate channels to maintain a degree of spectrum efficiency at least equivalent to that obtained through 5 kHz channelization. We asked, alternatively, whether our proposal to license through competitive bidding would provide sufficient incentives for licensees to use their spectrum efficiently, thus obviating the need for a specific spectrum efficiency standard.[202]

(b) *Comments*

111. Some equipment manufacturers favor the adoption of a spectrum efficiency standard.[203] For example, SEA states that, because we have proposed construction requirements for Phase II 220 MHz licensees and have adopted such deadlines for narrowband PCS, ``it would appear that the Commission believes that competitive bidding does not provide sufficient incentives for the timely build-out of systems."[204] SEA concludes that if the Commission decides to permit channel aggregation, then ``efficiency standards will be needed to encourage spectrum efficient use," and thus proposes that we adopt a standard that would require one voice channel per 5 kHz (for voice communications) and a 4,800 bps data rate (for data communications).[205] Securicor, in its reply comments, asks that, if we permit ``wide-band systems" in the 220 MHz band, we should avoid taking ``a step backward by not requiring the deployment of spectrally efficient technology."[206] Securicor therefore proposes that we provide ``one high-grade voice channel with performance equaling that of a toll quality telephone circuit and a data rate of 14.4 kbps for every 5 kHz of spectrum aggregated."[207]

112. Other commenters, however, argue that an efficiency standard is not necessary or appropriate. For example, Comtech believes that ``competitive bidding will ensure that spectrum is used as intensively as possible" and that ``licensees will have every incentive to derive as much

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[202] *Third Notice*, 11 FCC Rcd at 230 (para. 83).

[203] Motorola did not raise the issue of spectrum efficiency standards, but did support our proposal to allow the aggregation of contiguous 5 kHz channels. Motorola *Ex Parte* Comments, March 18, 1996; May 16, 1996; and June 12, 1996.

[204] SEA Comments at 16-17. SEA also notes that ``[c]ompetitive bidding encourages profitable use of spectrum, but, given the costs of modern efficient technologies, the most profitable use of the spectrum is not always the most efficient use." *Id*. at n. 27.

[205] *Id*. at 17.

[206] Securicor Reply at 5.

[207] *Id*. at 6.

revenue as possible from their spectrum, to offset the cost of securing the spectrum."[208] Pagenet notes that ``if the Commission were to artificially limit the ability of the 220 MHz license [sic] to offer services, [it] will place 220 MHz licensees at a disadvantage in the marketplace because the other CMRS licensee [sic] are not subject to narrowband channelization spectrum efficiency requirements."[209] Pagenet further observes that if the Commission were to require licensees to meet a spectrum efficiency standard, it would be limiting the number of service offerings that could be provided in the band. Metricom contends that competitive bidding and the marketplace will ``ensure that licensees utilize their spectrum in a technologically efficient manner. [Whereas,] [a]n arbitrary spectral efficiency parameter . . . will only hinder the ultimate development of the band." [210]

(c) *Decision*

113. One of our principal goals in establishing the 220-222 MHz band was to encourage the development of spectrally efficient technologies. Some commenters believe that a spectrum efficiency standard should be adopted for those licensees aggregating contiguous channels to ensure that spectrum in the band continues to be used efficiently. Other commenters, however, believe that licensees acquiring 220 MHz spectrum through competitive bidding will have sufficient incentives to use that spectrum as efficiently as possible. Still others point out that a spectrum efficiency standard could preclude the provision of certain communications services.

114. We conclude that a spectrum efficiency standard should be adopted for the 220-222 MHz band, and applied to licensees aggregating contiguous 5 kHz channels. In adopting this requirement, we note that we do not disagree with commenters that suggest that licensees acquiring 220 MHz spectrum through competitive bidding will likely have the incentive to use their spectrum efficiently. We believe, however, that our adoption of a mandatory spectrum efficiency standard at this time is an appropriate and effective means of ensuring that licensees aggregating contiguous channels will operate in an efficient manner.

115. Nor do we find it necessary to resolve the claims of those parties that assert that our adoption of a standard could prevent certain types of communications service from being provided in the 220-222 MHz band. In response to such claims, we must emphasize that our purpose in adopting a spectrum efficiency standard is not to prevent the offering of new and innovative services in the band. Rather, we believe that by adopting a spectrum efficiency standard, we will encourage the development of spectrally efficient technologies in any number of other wireless communications services that may eventually be provided in the band. Such an objective is in keeping with our adoption of 5 kHz channelization for the band in the *220 MHz Report and Order* in order to stimulate the development of spectrally efficient technologies in the land mobile radio services.

116. We therefore conclude that Phase I and Phase II licensees combining contiguous 5 kHz channels to operate on channels wider than 5 kHz will be required to meet the following

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[208] Comtech Comments at 9.

[209] Pagenet Comments at 14.

[210] Metricom Comments at 4.

spectrum efficiency standard: For voice communications, a licensee must employ equipment that provides at least one voice channel per 5 kHz of channel bandwidth. For data communications, a licensee must employ equipment that operates at a data rate of at least 4,800 bits per second per 5 kHz of channel bandwidth.

117. We will implement this decision through our type acceptance process. Thus, upon the effective date of the rules adopted in this proceeding, a request by any equipment manufacturer or other party for Part 90 type acceptance of transmitters designed to operate in frequencies in the 220-222 MHz band and not designed to operate on channel bandwidths of 5 kHz or less (as currently required by our rules), must demonstrate that the equipment meets the spectrum efficiency standard we have adopted in this Order.

118. We desire to encourage new and innovative efficient technologies to benefit users of this band and the public. Therefore, as we did in our recently adopted *Refarming Reconsideration Order*,[211] we will provide manufacturers with additional flexibility to design spectrally efficient transmitters. Manufacturers may obtain type acceptance for equipment that does not meet the voice or data efficiency standard if: (1) the manufacturer submits a technical analysis with its application for type acceptance demonstrating that the equipment will provide more spectral efficiency than that which would be provided by use of the voice or data efficiency standard; and (2) this technical analysis is deemed to be satisfactory by the Commission's Equipment Authorization Division.[212] Licensees may employ equipment that does not meet the spectrum efficiency standard only if such equipment has been type accepted in this manner.

119. Finally, we believe that the spectrum efficiency standard should only remain in effect through December 31, 2001. This, we believe, will provide a fair and appropriate time period for spectrally efficient technologies to develop in the 220-222 MHz band, and will enable other innovative technologies and services to eventually be introduced into the band as well. We believe that this decision also balances our goal of stimulating the development of spectrally efficient technology with our desire to rely on market forces to spur the production of efficient technology, and to grant licensees flexibility to determine the technology that best suits their needs. We agree with commenters that our decision to use competitive bidding for Phase II licenses will encourage efficient use of the spectrum. We want to ensure, however, the availability of spectrally efficient equipment in this band. We are also confident that, by the beginning of 2002, the state-of-the-art in wireless equipment will have exceeded our standard, and there will therefore no longer be a need to mandate a standard for the 220-222 MHz band.

(6) Emission Mask

(a) *Proposal*

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[211] Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, Amendment of the Commission's Rules Concerning Maritime Communications, PR Docket No. 92-257, Memorandum Opinion and Order, 11 FCC Rcd 17676 (1996) (*Refarming Reconsideration Order*).

[212] We recognize that manufacturers may be reluctant to engage in the research and development necessary for new equipment without knowing whether proposed equipment meeting specified standards would be eligible for this option. Accordingly, upon specific request, the Equipment Authorization Division will advise applicants who desire to develop equipment for this band as to the acceptability of their technical analysis.

120. In the *Third Notice*, we indicated that, on channel assignments composed of contiguous channels, where licensees may aggregate their channels, licensees would no longer be required to adhere to the existing channel emission masks at the edge of each of their authorized five kHz channels. To prevent adjacent channel interference to licensees operating on channels outside their channel block, however, we proposed that licensees authorized on contiguous channel assignments be required to conform to the mask at the outer edge of their channel blocks.[213] We also noted that allowing licensees to refrain from complying with the emission masks of each of the ``inside" channels in their block would result in licensees transmitting stronger out-of-band signals than are currently permitted by our rules. We tentatively concluded, however, that, because licensees constructing base stations must adhere to the required co-channel separation criteria with respect to all co-channel licensees in their area, the increased strength of out-of-band signals would not result in any increased likelihood for harmful interference to co-channel licensees.[214]

(b) *Comments*

121. SEA favors requiring licensees to conform with the emission mask at block edges ``to ensure appropriate protection to adjacent channel neighbors," and agrees that ``as long as the ERP/HAAT and geographic separations are maintained as specified in the current rules, the increased signal strength between channels will not result in an increased likelihood of harmful interference to co-channel licensees."[215] Metricom agrees with the proposal, and also proposes eliminating the frequency stability requirements for all inside channels, indicating that this ``will have no adverse impact on adjacent channel licensees so long as the emission mask requirements are met at the 'outside' channels."[216]

(c) *Decision*

122. We adopt our proposal to eliminate the emission mask at the edge of the ``inside" channels for Phase I and Phase II licensees authorized on contiguous channel assignments. Such licensees will only have to comply with the emission masks at the outer edge of their channel blocks. We also adopt Metricom's proposal to eliminate the frequency stability requirements for the inside channels of licensees aggregating their channels. Finally, with regard to the issue of whether allowing licensees to refrain from complying with the emission masks of each of the ``inside" channels in their block would result in licensees transmitting stronger out-of-band signals and thus potentially causing interference to co-channel licensees, we conclude that because licensees constructing base stations must adhere to the required co-channel separation criteria with respect to all co-channel licensees in their area, the increased strength of out-of-band signals will not result in any increased likelihood for harmful interference to co-channel licensees.

d. *Procedures for Assignment of Non-Nationwide Channels*

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[213] *Third Notice*, 11 FCC Rcd at 230 (para. 84).

[214] *Id.*

[215] SEA Comments at 15-16 (emphasis omitted).

[216] Metricom Comments at 5.

(1) In General

(a) *Proposal*

123. We have decided in this Order that the 125 non-nationwide channels should be available on an equal basis to licensees using the spectrum for subscriber-based services and licensees using the spectrum to meet their internal communications needs. In the *Third Notice*, we indicated that we would not be able to determine in advance of authorization which of these types of licensees will acquire the spectrum, and thus we would not be able to conclude with absolute certainty the principal use of this spectrum.[217] We also tentatively concluded that the principal use of the Phase II non-nationwide spectrum on the 125 channels is likely to be for the transmission or reception of communications signals to subscribers for compensation, based upon two factors: (1) most Phase I non-nationwide applicants appear to intend to use their spectrum for for-profit services; and (2) we proposed to continue to allow non-nationwide 220 MHz licensees using spectrum for internal communications to lease excess capacity to provide service to subscribers.[218] We further tentatively concluded that, in accordance with Section 309(j)(2)(A) of the Communications Act, mutually exclusive applications for initial licensing of these channels should be assigned through competitive bidding, and we sought comment on this decision.[219]

(b) *Decision*

124. APCO raises a concern about our proposal to assign mutually exclusive applications for the 125 channels through competitive bidding. We address the issue raised by APCO in the following Section (*infra* at para. 128). APCO's concern notwithstanding, we conclude that, based on our analysis in the *Third Notice* that the principal use of the spectrum is likely to be for the transmission or reception of communications signals to subscribers for compensation, we should assign mutually exclusive applications for licenses on the 125 channels through competitive bidding. In reaching this conclusion, we find that assigning this spectrum through competitive bidding will promote Section I of the Communications Act and the objectives described in Section 309(j)(3) of the Communications Act, as discussed in the *Third Notice*. We also adopt our proposal to continue to allow non-nationwide 220 MHz licensees using their spectrum for internal communications to lease excess capacity of their systems, and thereby provide service to subscribers. However, to the extent such a licensee, in leasing excess capacity, meets our definition of a Commercial Mobile Radio Service provider, it will be subject to regulation as a CMRS provider.

(2) Public Safety and EMRS Entities

(a) *Proposal*

125. In the *Third Notice* we tentatively concluded that we should continue to authorize

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[217] *Third Notice*, 11 FCC Rcd at 224 (para. 70).

[218] We observed that the *Competitive Bidding Second Report and Order* provides guidance for determining the likely principal use of a service. *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2353-54 (paras. 30-36).

[219] *Third Notice*, 11 FCC Rcd at 225 (para. 71).

the 10 Public Safety and five EMRS channels on a first-come, first-served basis -- with stations authorized at a single location, and protected in accordance with our 120-km co-channel separation criteria. We also concluded that, because these channels will not be used principally for the provision of subscriber-based services for compensation, in accordance with Section 309(j) of the Communications Act, they should be assigned through random selection procedures.[220]

126. We noted further that our current rules permit Public Safety entities, including those eligible in the EMRS, to apply for *all* of the non-nationwide 220 MHz channels, including the 125 channels. We therefore tentatively concluded that, because we believed that the principal use of the 125 non-nationwide channels was likely to be for the provision of subscriber-based service for compensation and therefore to be assigned through competitive bidding, Public Safety and EMRS entities seeking these channels would also be required to obtain them through competitive bidding. We also noted, however, that because we had only received three applications from Public Safety entities for authorization on the Public Safety channels in Phase I, we believed that Public Safety users would be adequately accommodated by our continued allocation of the 10 channels reserved for their sole use.[221]

(b) *Comments*

127. APCO asserts that the fact that only three applications were filed for the Public Safety channels in Phase I ``is not an accurate reflection of actual pubic safety interest in or demand for these frequencies."[222] APCO argues further that, because 10 channels designated for Public Safety use are not enough for many large, state-wide mobile data communications networks, we should ``provide realistic opportunity for public safety to obtain more than 10 channels."[223] APCO further notes that ``if subject to competitive bidding, the channels would be lost forever to commercial interests since state and local government agencies are in no position to compete in spectrum auctions."[224] APCO concludes, therefore that we should refrain from implementing competitive bidding for all of the remaining 125 non-nationwide channels.[225]

(c) *Decision*

128. In the 2*20 MHz Report and Order*, we decided to allocate 10 channels solely for use by Public Safety eligibles, and in this Order we have decided to retain, but not expand this allocation. We made this decision because while there appears to be some need on the part of public safety entities for use of 220 MHz channels, we have no way to judge, at this time, the actual level of that demand. While APCO may be correct in its assertion that the existing

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[220] *Id*. at 225 (para. 72).

[221] *Id*. at 225 (para. 73).

[222] APCO Comments at 2.

[223] *Id*. at 3.

[224] *Id*. at 2.

[225] *Id*. at 3.

applications for the 220 MHz Public Safety channels do not accurately represent the real demand for these frequencies, we have no other evidence of demand for these channels at this time. In order to ensure that Public Safety entities have access to the spectrum resources they need to fulfill their missions, however, the Commission is currently examining the operational, technical, and spectrum needs of the public safety community through the year 2010.[226] This proceeding will draw extensively from the work of the Public Safety Wireless Advisory Committee, which has released its Final Report. That report noted the existing use of the 220 MHz band for Public Safety, but did not recommend that additional channels from the 220 MHz band be made available for Public Safety use. The concerns that APCO has raised about the possible need for additional spectrum by public safety entities will be fully addressed in the public safety proceeding. We therefore conclude that we should not assign licenses for any of the 125 non-nationwide channels by any means other than competitive bidding.

129. We also conclude that Public Safety Channels 166-170 and the five EMRS channels should be assigned on first-come, first-served basis -- with stations authorized at a single location, and protected in accordance with our existing co-channel separation criteria.[227] If any mutually exclusive applications are filed on the same day, we will choose from among these applications based on random selection procedures. Under Section 309(i) of the Act, the Commission has the authority to use random selection procedures for awarding licenses from among mutually exclusive applications if the Commission has determined that the use of the spectrum is not consistent with Section 309(j)(2)(A).[228] Section 309(j)(2)(A) states that competitive bidding may be used if the principal use of the spectrum is reasonably likely to involve a subscriber-based service. Because the Public Safety and EMRS channels are not reasonably likely to be used for subscriber-based services, we find that these channels would not be auctionable under Section 309(j)(2)(A). Therefore, the Commission would have the authority to award licenses from among mutually exclusive applications based on random selection procedures. Channels 161-165 will be available on a non-exclusive, *i.e.*, shared basis and, as such, will not be assigned through random selection procedures. Thus, we will grant all applications for these channels that comply with our Rules. After the effective date of the rules adopted in this proceeding, we will issue a Public Notice announcing the acceptance of applications for authorizations on the 10 public safety channels (Channels 161-165 and Channels 166-170) and the five EMRS channels.

(3) Federal Government Users

(a) *Proposal*

130. In the *Third Notice*, we indicated that our current rules permit Federal Government entities to be authorized on any of the 140 Phase I non-nationwide channels on a co-equal basis

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[226] *Public Safety NPRM*, 11 FCC Rcd 12460.

[227] *See* Section 90.723(d) of the Commission's Rules, 47 C.F.R. § 90.723(d). Also, as indicated in the *EMRS Report and Order*, to ensure that use of 220 MHz frequencies be compatible with existing regional and local emergency medical plans, we require that applications for EMRS channels be subject to approval by appropriate regional and local emergency planning authorities. If there are no regional and local plans in an applicant's area of operation, an applicant must make an affirmative statement that no such plans exist. *See EMRS Report and Order*, 8 FCC Rcd at 1459 (para. 29).

[228] Communications Act § 309(i), 47 U.S.C. § 309(i).

with non-Government users. We also observed that, because we received *no* applications from Federal Government entities for non-nationwide 220 MHz spectrum during Phase I, we anticipated that demand for 220 MHz spectrum by Government entities would be satisfactorily met through their future assignment on the 10 Public Safety and 5 EMRS channels.[229] In addition, we suggested that the assignment of these channels to Federal Government agencies would be of particular interest to those agencies responsible for public safety and emergency medical services because it would enable them to communicate with their counterparts at the State and local level. We also concluded that mutually exclusive applications for the channels available to both Government and non-Government entities should be assigned through a single unified lottery.[230]

(b) *Comments*

131. The National Telecommunications and Information Administration (NTIA), in its reply comments, relinquished Government rights to the 125 non-nationwide channels. NTIA indicated that in removing the Federal Government's co-primary status with respect to these channels, it ``seeks to increase potentially this spectrum's value at auction and to promote the availability of this radio spectrum for commercial services."[231]

(c) *Decision*

132. We are confident that future demand by Federal Government entities for 220 MHz spectrum will be satisfied by their authorization on the 10 Public Safety and 5 EMRS channels.[232] In addition, we believe that Federal Government use of these channels will be beneficial because it will enable Federal Government agencies involved in public safety and emergency medical services to communicate with State and local agencies with similar responsibilities in times of disasters or emergencies. We therefore conclude that Federal Government entities may only apply for the 10 Public Safety and five EMRS channels, and that any mutually exclusive applications for Channels 166-170 and the EMRS channels among Government and non-Government entities will be assigned through a single lottery.[233] Channels 161-165 will be available to both non-Government public safety eligibles and Government entities on a non-exclusive, *i.e.*, shared basis and therefore will not be assigned through random selection procedures. After the effective date of the rules adopted in this proceeding, we will issue a Public Notice announcing the acceptance of applications for authorizations on all public safety and EMRS channels by Government, as well as eligible non-Government entities.

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[229] *Third Notice*, 11 FCC Rcd at 225-26 (para. 74).

[230] *Id*. at 226 (para. 74). We have noted that, in the *220 MHz Report and Order*, we decided that mutually exclusive applications for 220 MHz channels involving Government and non-Government applicants would be resolved in a ``single, unified lottery . . . ." *220 MHz Report and Order*, 6 FCC Rcd at 2365 (para. 62).

[231] Letter from L. Irving, Assistant Secretary for Communications, U.S. Department of Commerce, to R. Hundt, Chairman, Federal Communications Commission (Apr. 15, 1996).

[232] According to Section 90.717 of the Commission's Rules, Federal Government entities may also be authorized on the two 5-channel *nationwide* Government assignments (Channels 111-115 and 116-120) that were made available in Phase I, and continue to be available in Phase II. 47 C.F.R. § 90.717.

[233] *See 220 MHz Report and Order*, 6 FCC Rcd at 2365 (para. 62).

(4) License Term

133. The license term for Phase I, non-nationwide 220 MHz licensees is five years. In our *CMRS Third Report and Order*, we decided that all Part 90 licensees reclassified as CMRS carriers would be granted a 10-year license term and be afforded renewal expectancy after their current license term expires if they met certain prescribed conditions.[234] In the *Third Notice* we proposed to grant 10-year authorizations to all non-nationwide Phase II licensees -- *i.e.*, EA and Regional licensees and Public Safety and EMRS licensees. We indicated that 10-year authorizations would encourage investment by EA and Regional licensees, and would help to minimize the administrative burden on Public Safety and EMRS licensees.[235] AMTA and Pagemart support our proposal.[236] Pagemart states that the use of 10-year license terms would ``bring 220 MHz licensees in line with existing CMRS licensees and minimize administrative burden on the Commission and . . . licensees."[237] We conclude that we should grant 10-year authorizations to all Phase II, non-nationwide licensees.

C. TECHNICAL AND OPERATIONAL RULES

1. Fixed Operations

a. *Proposal*

134. Our rules for the 220 MHz service permit fixed operations only on an ancillary basis to a licensee's primary land mobile operations.[238] We indicated in the *Third Notice* that we had imposed this restriction in the *220 MHz Report and Order* because we wanted to encourage manufacturers to invest in the development of narrowband land mobile technologies.[239] We tentatively concluded, however, that this restriction on the use of fixed communications in the 220 MHz band is no longer appropriate because, to compete effectively in the future mobile communications marketplace, 220 MHz licensees will have to be able to provide a wide array of communications services to the public.

135. We therefore proposed to modify our current rules, that only allow fixed operations on an ancillary basis to primary land mobile communications, in order to permit such operations on a primary basis for 220 MHz licensees. We proposed that the removal of this prohibition should apply to both nationwide and non-nationwide, non-Government and Government, Phase I and Phase II licensees, and to licensees offering service to subscribers as well as licensees using

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[234] *CMRS Third Report and Order*, 9 FCC Rcd at 8157 (para. 386).

[235] *Third Notice*, 11 FCC Rcd at 226 (para. 75).

[236] AMTA Comments at 16; Pagemart Comments at 4.

[237] Pagemart Comments at 4.

[238] Sections 90.731 and 90.733 of the Commission's Rules, 47 C.F.R. §§ 90.731, 90.733.

[239] *Third Notice*, 11 FCC Rcd at 226-27 (para. 76) (citing *220 MHz Report and Order*, 6 FCC Rcd at 2368 (para. 88)).

spectrum for internal communications.[240]

b. *Comments*

136. No commenters are opposed to allowing 220 MHz licensees to operate fixed stations on a primary basis. In embracing our proposal, AMTA indicates its support for the removal of ``certain technical and operational limitations that may no longer serve the public interest" and states that ``it is imperative that 220 MHz licensees have technical, operational and geographic flexibility to allow them to compete effectively."[241] E.F. Johnson notes that using its technology for fixed applications will ``increase its utility and offer more options for communications customers."[242] E.F. Johnson also indicates that its equipment ``can support fixed, as well as mobile transmissions."[243]

c. *Decision*

137. We recently decided to permit 220 MHz licensees classified as CMRS providers to offer fixed services. This decision was part of a broader decision to grant all CMRS licensees the flexibility to offer fixed services.[244] Those 220 MHz licensees not classified as CMRS providers -- *i.e.*, 220 MHz licensees not providing interconnected service or subscriber-based service for profit -- were not covered in that rulemaking. We now conclude that all 220 MHz nationwide and non-nationwide Phase I and Phase II, Government and non-Government licensees, including non-CMRS providers, should be permitted to operate fixed stations and provide fixed communications on a primary basis, *i.e.*, not ancillary to primary land mobile operations. As we stated in the *Third Notice*, we believe that lifting the restriction on primary fixed use in the 220 MHz service will allow 220 MHz licensees to compete more effectively in the wireless communications marketplace and also will broaden the array of services available to consumers. Furthermore, by permitting fixed as well as mobile operations in the 220 MHz service, we will also provide for additional applications of narrowband technology, which will serve our goal of continuing to promote the development and implementation of that technology.[245]

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[240] *Third Notice*, 11 FCC Rcd at 227 (para. 77).

[241] AMTA Comments at 12.

[242] E.F. Johnson Comments at 5.

[243] *Id*. *See also* Comtech Comments at 7; Metricom Comments at 3; Pagemart Comments at 4; Kelley Comments at 3; Overall Wireless Comments at 2.

[244] *See* Amendment of the Commission's Rules to Permit Flexible Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8965, 8967 (para. 2) (1996).

[245] As stated above, however, the Commission makes no warranties about the use of this spectrum for particular services. Applicants should be aware that a Commission auction represents an opportunity to become a Commission licensee in this service, subject to certain conditions and regulations. A Commission auction does not constitute an endorsement by the Commission of any particular services, technologies, or products, nor does a Commission license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture. See para. 19, *supra*.

138. Phase II licensees and Phase I nationwide licensees will be authorized to locate fixed stations transmitting on frequencies in the 220-221 MHz and 221-222 MHz bands anywhere within their area of operation -- subject to compliance with prescribed environmental, air safety and international regulations outlined in para. 80, *supra* -- so long as: (1) transmissions from fixed stations on frequencies in the 220-221 MHz band meet all relevant technical rules of Subpart T required for land mobile base stations (*e.g.*, Sections 90.723 and 90.729); (2) for EA and Regional licensees, the co-channel protection criteria prescribed in Section IV.C.6, *infra*, and the field strength limits prescribed in Section IV.C.7, *infra*, are met for all fixed stations transmitting on frequencies in the 220-221 MHz band; and (3) for Phase II licensees and Phase I nationwide licensees, transmissions on frequencies in the 221-222 MHz band do not exceed 50 watts ERP and are not from antennas that are more than 7 meters above ground, except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power from such transmissions is reduced below 50 watts ERP in accordance with the formula provided in Section IV.C.3.b, *infra*. This antenna height and power limitation is consistent with our decision in that section, where we require licensees operating *paging* base stations transmitting on 221-222 MHz frequencies to comply with these power and antenna height restrictions. Applying these restrictions to *all* fixed stations transmitting on 221-222 MHz frequencies is appropriate and necessary to ensure that transmissions from such stations do not cause adjacent channel interference.

139. Phase I, non-nationwide licensees are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base/mobile operations. We conclude that such licensees should be permitted to operate fixed stations, but that such stations, if transmitting on frequencies in the 220-221 MHz band, must: (1) be located only at the coordinates of the licensee's authorized base station; (2) meet all relevant technical rules of Subpart T required for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729); and (3) operate at the effective radiated power (ERP) and the antenna height-above-average-terrain (HAAT) prescribed in the licensee's land mobile base station authorization.[246] Consistent with our decision above with regard to the transmissions from Phase II and nationwide Phase I fixed stations operating on frequencies in the 221-222 MHz band, we will require that transmissions from fixed stations operated by Phase I, non-nationwide licensees on frequencies in the 221-222 MHz band not exceed 50 watts ERP, nor be from antennas that are more than 7 meters above ground, except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power from such transmissions is reduced below 50 watts ERP in accordance with the formula provided in Section IV.C.3.b, *infra*. Also, Phase I non-nationwide licensees will be required to comply with the prescribed environmental, air safety, and international regulations outlined in para. 80, *supra*, for fixed stations transmitting on frequencies in the 220-221 MHz and 221-222 MHz bands. Phase I, non-nationwide licensees will be permitted to begin primary fixed operations *only* after meeting the requirement that they construct their land mobile base station (for base/mobile operations) and place it in operation or commence service. Phase I, nationwide licensees will be permitted to begin primary fixed operations only after meeting their two-year benchmark to construct the initial

[246] Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT. Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP.

phase of their nationwide land mobile system, as prescribed in Section 90.725(a) of our Rules.[247]

2. Secondary, Fixed Operations

a. *Proposal*

140. In the *Third Notice* we proposed to allow 220 MHz licensees to obtain secondary authorizations to operate fixed facilities on a non-interference basis to licensees authorized to operate on a primary basis. The issue of secondary, fixed 220 MHz operations had been raised by Fairfield Industries, Inc. (Fairfield), which requested that individuals involved in geophysical telemetry be permitted to operate temporary, fixed 220 MHz facilities, on a secondary basis without the requirement that such operation be on an ancillary basis to the licensee's primary mobile operations.[248]

141. We found merit in Fairfield's request and believed that it would be in the public interest to allow the type of operation they proposed, but we concluded that rather than limiting secondary, fixed use of 220 MHz spectrum only to licensees employing temporary facilities for geophysical telemetry operations, even greater use of the spectrum could be realized by allowing any and all types of secondary, fixed operations.[249] In proposing to expand this permissible use of the spectrum, however, we also believed that certain additional restrictions on this type of operation were appropriate. We therefore proposed that secondary, fixed operation be limited to a maximum of two watts ERP for licensees operating within 60 kilometers of the center of any of the urban areas listed in Section 90.741 of the Commission's Rules,[250] and a maximum of five watts ERP for licensees operating beyond 60 kilometers of these areas. We also proposed to accept applications for authorization of secondary, fixed use of the 220 MHz band, without the requirement of frequency coordination, upon adoption of final rules in this proceeding. We requested comment on these proposals, including any suggested changes to the technical restrictions proposed, and any comment as to whether we should further restrict secondary, fixed use of the 220 MHz band to operations at strictly temporary locations, as provided for under Section 90.137 of the Commission's Rules.[251]

b. *Comments*

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[247] Section 90.725(a) of the Commission's Rules, 47 C.F.R. § 90.725(a).

[248] Fairfield Industries, Inc., Petition for Rulemaking, RM-8506 (filed June 8, 1994). *See* Public Notice, Report No. 2026 (released Aug. 16, 1994). No comments were filed with the Commission regarding the Fairfield petition. Our current rules allow 220 MHz licensees to provide operational-fixed facilities for ancillary, signalling and data transmission, subject to certain requirements, *e.g.*, that such ancillary operations be on a secondary, non-interference basis to the primary mobile operation of any other licensee. Section 90.731 of the Commission's Rules, 47 C.F.R. § 90.731.

[249] *Third Notice*, 11 FCC Rcd at 228 (para. 79).

[250] Section 90.741 of the Commission's Rules identifies the coordinates for the center of each of the listed areas. 47 C.F.R. § 90.741.

[251] *Third Notice*, 11 FCC Rcd at 228 (para. 79). Section 90.137 of the Commission's Rules provides, among other things, that temporary operation be limited to a period of not more than one year. 47 C.F.R. § 90.137.

142. A number of commenters oppose permitting use of the 220 MHz band for secondary, fixed operations. For example, Johnson ``questions the wisdom of secondary, fixed systems where there are primary operations," arguing that secondary, fixed transmitters ``can only serve to degrade the quality of service by the primary licensees on the service." Johnson is concerned that ``even the relatively low power of transmitters proposed for secondary use -- 2 and 5 watts -- are sufficient to cause interference to other licensees." Johnson therefore suggests that ``entities wishing to use secondary fixed operations enter into an agreement with the primary licensee for the use of the channels in the affected area. In that fashion, the primary licensees can be aware of the use of secondary, fixed units."[252] Comtech questions why an applicant ``would bid on spectrum knowing that there would be potential users, even secondary users on its channels" and believes that secondary users should ``arrange to employ spectrum through the auction winner in the area where operations are desired."[253] AMTA, in its reply comments, points out that ``while secondary operations are authorized only on a non-interference basis, location and resolution of interference problems can be costly and time-consuming, as well as administratively burdensome to the Commission." AMTA therefore agrees with Comtech and Johnson that ``entities wishing to offer secondary fixed services be required to enter into an agreement with any primary licensees potentially affected by secondary operations."[254] Fairfield, on the other hand, argues that there is ``virtually no risk of interference to primary users because oil and gas exploration occurs in remote, uninhabitable areas" and because ``transmitters operate at very low power levels of less than two watts and with duty cycles measured in seconds."[255] Fairfield also points out that ``geophysical telemetry operations are self-policing: seismic data collection relies on extremely sensitive equipment; hence, before any data can be collected, telemetry crews must monitor the spectrum carefully and avoid any channel on which they detect the slightest signal."[256] Fairfield, in its reply comments, contends that commenters' concerns of interference for systems using 220 MHz spectrum for seismic telemetry operations are therefore ``groundless," and that those who believe their rights would be infringed by the existence of secondary users in the band cannot ``claim a necessary right to use the spectrum free and clear of all other uses no matter how innocuous."[257]

c. *Decision*

143. We have decided in this Order to permit all Phase I and Phase II 220 MHz licensees to perform fixed operations on a co-primary basis with mobile operations. The issue at hand is whether to allow individuals to obtain *secondary* authorizations to operate fixed stations on a non-interference basis to both Phase I and Phase II licensees authorized on a primary basis. We agree with commenters that, under the rules we are adopting for Phase II licensing, which will

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[252] Johnson Comments at 6.

[253] Comtech Comments at 8.

[254] AMTA Reply at 4.

[255] Fairfield Comments at 2-3.

[256] Fairfield Reply at 2.

[257] *Id.* at 2-3.

require licensees to obtain authorizations through competitive bidding, it generally would not be appropriate to allow individuals to obtain unlimited secondary authorizations to operate fixed facilities, even on a non-interference basis.[258] According to Fairfield, however, the type of secondary use it proposes -- *i.e*., the use of the 220-222 MHz band for geophysical telemetry operations -- would occur only in remote, uninhabited areas and at relatively low power levels. We believe that operations of the type envisioned by Fairfield are not likely to present a risk of interference to primary 220 MHz stations. We therefore conclude that individuals using 220-222 MHz spectrum for geophysical telemetry operations should be permitted to obtain secondary authorizations to operate fixed facilities on a non-interference basis to primary licensees. We will, however, require secondary licensees to notify any co-channel primary 220 MHz licensees authorized in the area of their operation of the location of such secondary facilities. Specifically, we will require secondary licensees to provide this notification: (1) to any co-channel licensees operating on a single-station basis (*i.e.*, non-nationwide Phase I licensees) with an authorized base station, or fixed station transmitting on base station transmit frequencies, within 45 km of the secondary licensee's stations; (2) to any co-channel, Phase II EA or Regional licensee authorized to operate in the EA or Region in which the secondary licensee's stations are located; and (3) to any co-channel Phase I or Phase II nationwide licensees. Additionally, while are confident that there is little risk of interference to primary licensees from secondary licensees performing geophysical telemetry operations, we believe that it is appropriate to restrict such operations on the public safety/mutual aid channels, the EMRS channels, and the Federal Government channels. Operations on these channels will likely involve safety-of-life or emergency communications and we would not want to risk even the slightest possibility of interference to such communications. Secondary, fixed operations will therefore be permitted on all 220 MHz channels except Channels 111-120, 161-170, and 181-185.

144. In the *Third Notice* we asked for comment about restricting secondary, fixed use of the 220 MHz band to operations at strictly temporary locations, as permitted under Section 90.137 of the Commission's Rules. We believe that temporary authorizations would be well suited to the type of operations to be performed by licensees such as Fairfield. Therefore, we will require licensees obtaining secondary authorizations for fixed facilities for geophysical telemetry operations to obtain temporary authorizations under the provisions of Section 90.137 of the Commission's Rules.[259] Under this rule, licensees operating stations at the same location for more than one year will be required to obtain separate authorization for such stations. We will, however, modify Section 90.137(a)(3) to enable licensees to operate more than 180 days without the requirement that they obtain frequency coordination. We will begin to accept applications for such temporary authorizations on the effective date of the rules adopted in this proceeding.

145. Although we proposed to restrict the power transmitted by secondary licensees in order to limit the degree of interference they could cause, commenters raised concerns about the potential for interference from secondary, fixed stations operating at the power levels proposed (*e.g.*, two or five watts ERP). Fairfield indicated in its Petition for Rulemaking, however, that its system is capable of operating at lower power levels (*i.e.*, one watt ERP), and that its antennas

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[258] *See* Comtech Comments at 8; AMTA Reply at 4.

[259] Section 90.137 of the Commission's Rules provides, among other things, that licensees operating stations at the same location for more than one year must obtain separate authorization for such stations, and that applicants seeking authority to operate more than 180 days must submit evidence of frequency coordination. 47 C.F.R. §§ 90.137(a)(3), 90.137(b).

are generally located only six feet above ground. We will therefore limit the output power of stations operated by secondary licensees to a maximum of one watt ERP, and restrict antenna height to no more than two meters (6.6 feet) above ground.

146. Additionally, under Section 90.731 of our existing rules, Phase I licensees are permitted to construct and operate operational-fixed stations, *i.e.*, stations that are used only for a licensee's internal communications, to provide fixed signalling and data transmissions on an ancillary basis to its primary land mobile operations, and on a secondary, non-interference basis to the primary mobile operations of other licensees.[260] The operation of such facilities will now be permitted on a primary basis (*i.e.*, not ancillary to a licensee's primary land mobile operations and not secondary to the primary mobile operations of other licensees). Thus, Phase I licensees that intend to employ operational-fixed stations to provide fixed signalling and data transmissions must now comply with the technical and operational provisions described in paragraphs 138-139, *supra*, for general fixed operations rather than the technical and operational provisions currently contained in Section 90.731.

3. Paging Operations

a. *General Operations*

147. We have decided in this Order to permit Phase I and Phase II licensees to operate paging systems on a primary basis -- *i.e.*, not ancillary to primary land mobile operations.[261] Phase II licensees and Phase I nationwide licensees will thus be authorized to locate paging base stations anywhere within their area of operation -- subject to compliance with prescribed environmental, air safety and international regulations, as outlined in para. 80, *supra* -- so long as transmissions from base stations transmitting on frequencies in the 220-221 MHz band meet all relevant technical rules of Subpart T for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729), and for EA and Regional licensees, the co-channel protection criteria prescribed in Section IV.C.6, *infra*, and the field strength limits prescribed in Section IV.C.7, *infra*, are met for all such base stations.

148. Phase I non-nationwide licensees, which are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base and mobile operations, must locate paging base stations transmitting on 220-221 MHz frequencies *only* at the coordinates of their authorized land mobile base station. Furthermore, such licensees must operate their paging base stations transmitting on 220-221 MHz frequencies: (1) under all relevant technical rules of Subpart T for land mobile base station operations (*e.g.*, Sections 90.723 and 90.729); and (2) at the effective radiated power (ERP) and the antenna height-above-average-terrain (HAAT) prescribed in their land mobile base station authorization.[262] Phase I, non-nationwide licensees will be permitted to begin primary paging

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[260] *See* Section 90.731 of the Commission's Rules. 47 C.F.R. § 90.731.

[261] See para. 95, *supra*.

[262] Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT. Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP.

operations *only* after meeting the requirement that they construct their land mobile base station (for base and mobile operation) and place it in operation, or commence service. Phase I, nationwide licensees will be permitted to begin primary paging operations only after meeting their two-year benchmark to construct the initial phase of their nationwide land mobile system, as prescribed in Section 90.725(a) of the Commission's Rules.[263]

b. *Two-Way Operations*

149. In the *Third Notice*, we proposed to permit 220 MHz licensees to operate paging systems on a primary basis, but did not discuss whether 220 MHz licensees could use their mobile channels to transmit return messages from pagers. Various commenters, however, addressed this issue. Pronet, for example, asks that we allow two-way paging because restricting licensees to one-way paging operations would force half of all 220 MHz spectrum used for paging operations to ``lie dormant."[264] We agree that to restrict 220 MHz licensees to one-way paging systems would not be an efficient use of the spectrum. For this reason, and because we believe that it is appropriate to provide 220 MHz licensees operating paging systems with the flexibility to employ the type of paging systems that best meets the needs of their customers, we will permit both one-way and two-way paging operations.

150. SEA suggests that, if we permit two-way paging, we should continue to limit maximum power on the mobile frequencies to 50 watts ERP, and that we should not allow licensees to construct base stations on the mobile frequencies at heights greater than 7 meters above ground. SEA believes that operation of base stations above this height could cause interference to adjacent channel licensees, and that, in general, ``[t]o permit paging on the mobile transmit frequencies would result in serious interference problems for Phase I and Phase II half-duplex systems."[265] Metricom, in its reply comments, believes that SEA's proposed limit on mobile station power and base antenna height should not be applied to nationwide 220 MHz systems.[266]

151. We agree with SEA that restrictions on the use of the mobile channels by licensees operating two-way paging systems is appropriate. When we adopted the 50-watt effective radiated power (ERP) limitation for mobile and portable units operating in the 220 MHz band, we did not envision the use of the mobile channels for ``base stations" situated at high elevations. To permit such operations without restriction could, as SEA suggests, result in interference to nearby, adjacent channel 220 MHz licensees. We will therefore limit mobile and portable ERP to 50 watts for licensees operating two-way paging systems, and will modify Section 90.729(b) of our rules to require licensees constructing base stations on the mobile channels, *i.e.*, channels in the 221-222 MHz band, to operate such stations at heights no greater than 7 meters above ground -- except that transmissions from antennas that are more than 7 meters above ground will be permitted if the effective radiated power of such transmissions is reduced below 50 watts ERP by

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[263] Section 90.725(a) of the Commission's Rules, 47 C.F.R. § 90.725(a).

[264] Pronet Reply at 3-4.

[265] SEA Comments at 18.

[266] Metricom Reply at 5-6.

20 $\log_{10}$(h/7) dB, where h is the height of the antenna above ground, in meters.[267] This antenna height and power limitation is necessary to ensure that transmissions from paging base stations operating in the 221-222 MHz band do not cause adjacent channel interference. Metricom suggests that such a limitation only apply to non-nationwide licensees. We conclude, however, that the adjacent channel interference that could result from licensees operating at high elevations could be caused by nationwide as well as non-nationwide licensees. We shall therefore apply the height limitation to all 220 MHz licensees. Finally, we will require Phase I non-nationwide licensees to comply with the prescribed environmental, air safety, and international regulations outlined in para. 80, *supra*. for paging base stations transmitting on frequencies in the 221-222 MHz and 220-221 MHz bands.

4. Other Technical Considerations

152. In developing our proposed band plan, we noted in the *Third Notice* that, due to circumstances unique to the 220-222 MHz band, we currently require licensees operating base stations in the upper 40 channel assignments (*i.e*., Channels 161-200) to reduce power when located within certain distances of base station receivers of licensees operating on the adjoining Channels 1-40, and we also limit the base station transmitter power for stations authorized on Channels 196-200 to 2 watts.[268] We proposed that Phase II EA and Regional licensees on these channel blocks coordinate among themselves to locate their base stations to avoid interference, and proposed to allow licensees operating on Channels 196-200 to operate at power levels greater than 2 watts if such licensees obtain the concurrence of all Phase I and Phase II licensees operating in their area.[269] There were no comments on this issue.

153. We will require Phase II licensees authorized on Channels 161-200 and Channels 1-40 to coordinate among themselves to locate their base stations, and fixed stations operating on base station frequencies, to avoid interference and to cooperate to resolve any interference problems that may arise.[270] We will also require Phase II licensees authorized on Channels 161-200 to comply with the power limitations prescribed in the Table in Section 90.723(d) of the Commission's Rules, with respect to any authorized base stations, or fixed stations operating on base station transmit frequencies, of Phase I licensees operating on Channels 1-40. We will also require the six Regional licensees operating on Assignment J (Channels 186-200) to operate their authorized base stations or fixed stations transmitting on base station Channels 196-200 at power levels no greater than 2 watts ERP and at antenna heights no greater than six meters (20 feet). Licensees, however, may operate at power levels greater than 2 watts ERP or at antenna heights greater than six meters if: (1) they obtain the concurrence of all Phase I and Phase II licensees

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[267] Using this power reduction formula, licensees operating at antenna heights greater that 7 meters above ground will provide a signal equivalent to that produced by a 50 watt ERP transmission *at* 7 meters above ground. This formula was utilized in our Report and Order for LMS systems and adoption of the formula herein is consistent with its use in that proceeding. *See* Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, Report and Order, 10 FCC Rcd 4695, 4715-16 (para. 36) (1995).

[268] *Third Notice*, 11 FCC Rcd at 223 (para. 67).

[269] *Id*. at 223-24 (para. 68).

[270] *See, e.g.*, Section 90.173(b) of the Commission's Rules, 47 C.F.R. § 90.173(b).

operating authorized base or fixed stations on Channels 1-40 within 6 km of their authorized base or fixed stations; and (2) their authorized base or fixed stations are not located in the United States/Mexico or United States/Canada border areas.[271]

5. Construction Requirements

a. *Nationwide Licensees*

(1) Proposal

154. In the *Third Notice* we observed that, in adopting our original rules for the 220 MHz service, we adopted construction requirements for nationwide licensees that were a reflection of the traditional design of private land mobile radio systems (*i.e.*, the construction and operation of single, high powered base stations providing signal coverage over an extended area). Specifically, we required nationwide 220 MHz licensees to construct base stations in at least 70 different geographic areas over an extended period of time.[272] We also noted, however, that, since the adoption of those rules in 1991, we have implemented other communications services, such as broadband and narrowband PCS, where other types of system design are used. In these services, we adopted construction requirements for authorizations based not on the construction of individual base stations, but on requiring licensees to provide a minimum ``coverage" within their authorized area of operation.[273]

155. In light of the operational flexibility that we proposed to provide for 220 MHz licensees in the *Third Notice*, we decided to propose the adoption of the same type of broad coverage requirements for the Phase II nationwide 220 MHz service as we adopted for these other wireless services. Specifically, we proposed that Phase II nationwide 220 MHz licensees be required to construct base stations that provide coverage to a composite area of 750,000 square kilometers or serve 37.5 percent of the United States population within five years of initial license grant, and to provide coverage to 1,500,000 square kilometers or 75 percent of the population within 10 years of grant.[274] Our proposal was based on the construction requirement for nationwide narrowband PCS licensees.[275]

156. Because we recognized that certain types of service offerings we proposed to allow for 220 MHz licensees -- *e.g.*, fixed, point-to-point operations -- might not lend themselves to

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[271] As indicated in Section 90.715(c) of the Commission's Rules, 47 C.F.R. § 90.715(c), the U.S./Mexico border area for U.S. licensees is 120 km (74.6 miles) from the U.S./Mexico border. The U.S./Canada border area for U.S. licensees has not yet been determined.

[272] Section 90.725 of the Commission's Rules, 47 C.F.R. § 90.725. The rules provide that licensees granted commercial nationwide authorizations must meet construction benchmarks two, four, six, and ten years after initial license grant, and licensees granted non-commercial nationwide authorizations must construct and operate base stations in a minimum of 70 markets within five years of initial license grant.

[273] *Third Notice*, 11 FCC Rcd at 232 (para. 88).

[274] *Id*. at 232 (para. 89).

[275] Section 24.103(a) of the Commission's Rules, 47 C.F.R. § 24.103(a).

compliance with the strict construction requirement we proposed,[276] we proposed to permit nationwide 220 MHz licensees to meet their construction requirement alternatively by submitting a showing demonstrating the provision of appropriate levels of ``substantial service"[277] to the public at the prescribed five-year and 10-year construction benchmarks.[278] In addition, we asked commenters planning to construct systems that would lend themselves to a demonstration of substantial service, to indicate the types of ``build-outs" that would be appropriate for their particular systems and the period of time that should be required to achieve such build-outs. Finally, consistent with our rules for the PCS services,[279] we proposed that licensees be required to submit maps and other supporting documents to demonstrate compliance with the five-year and 10-year benchmarks, and we proposed that failure on the part of a nationwide licensee to meet either its five-year or 10-year construction requirement would result in forfeiture of its nationwide authorization.

(2) Comments

157. Commenting on our proposal to require licensees to meet their construction benchmarks to retain their authorizations, E.F. Johnson states that ``if licensees fail to meet the construction requirements, licenses should be revoked and issued to new entities that will make productive use of the spectrum."[280] Comtech seeks assurance that the existing construction requirements will remain in effect for all Phase I licensees.[281] Metricom addresses the question of how licensees operating fixed systems would meet the ``substantial service to the public" standard. Metricom suggests that we adopt separate construction standards for such licensees, and proposes a standard that ``considers the potential areas and population capable of being served by a fixed system, based on the equipment placed into service by the licensee."[282] Metricom also recommends that we ``freely consider waivers of any construction benchmarks [we] may establish for fixed systems in those instances where the applicant can reasonably justify that a waiver would

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[276] Fixed, point-to-point systems, for example, provide service in a linear manner, and thus a coverage ``area" calculation is not applicable.

[277] A ``substantial service" construction requirement is used for licensees in the broadband PCS and 900 MHz SMR services. *See* 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 to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Implementation of Section 309(j) of the Communications Act--Competitive Bidding, PP Docket No. 93-253, 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) *(900 MHz Second Report and Order*). For the broadband PCS rules, see Section 24.203(b) of the Commission's Rules, 47 C.F.R. § 24.203(b).

[278] *Third Notice*, 11 FCC Rcd at 233 (para. 90).

[279] Sections 24.103(f) and (h) and 24.203(b) and (c) of the Commission's Rules, 47 C.F.R. §§ 24.103(f), (h); 24.203(b), (c).

[280] E.F. Johnson Comments at 7.

[281] Comtech Comments at 12.

[282] Metricom Comments at 6 (emphasis omitted).

be in the public interest."[283]

(3) Decision

158. We will require Phase II licensees implementing nationwide land mobile or paging systems to meet our proposed construction requirement, which is to construct base stations that provide coverage to a composite area of at least 750,000 square kilometers or serve at least 37.5 percent of the United States population within five years of initial license grant, and to provide coverage to at least 1,500,000 square kilometers or at least 75 percent of the population within 10 years of grant. We will allow Phase II licensees implementing fixed operations as part of their nationwide system to meet a ``substantial service" construction requirement as an alternative to meeting the five-year or 10-year construction requirements. We shall not adopt a particular measure of ``substantial service" for such licensees, as Metricom suggests, but will consider such showings on a case-by-case basis. Licensees, in meeting either the standard construction requirement as described *supra*, or the substantial service requirement, will have to submit maps and other supporting documents to demonstrate compliance with their five-year and 10-year benchmarks. Failure on the part of a licensee to meet either its five-year or 10-year construction requirement will result in automatic cancellation of its nationwide authorization. Thus, a nationwide licensee failing to meet its construction requirement will not have its authorization converted to individual site-by-site authorizations for already constructed stations. In addition, we will not require nationwide licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations. This decision is consistent with our decision in paragraph 165, *infra*, to not require EA and Regional licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

159. As noted above, Phase I, nationwide licensees will be permitted to begin operating primary, fixed or paging operations *only* after meeting their two-year benchmark to construct the initial phase of their nationwide land mobile system, as prescribed in Section 90.725(a)(1) of the Commission's Rules.[284] In addition, licensees who wish to begin primary fixed or paging operations instead of or in addition to their land mobile operations after meeting their two-year benchmark will be required to meet the following requirements before beginning such primary fixed or paging operations:

- They must provide a schedule for the construction of the primary fixed or paging operations they intend to deploy instead of or in addition to their land mobile operations during the remainder of their initial 10-year licensing period.[285]

- They must certify that the financial showings and all other certifications they had provided in demonstrating their ability to construct and operate their nationwide land mobile system, as prescribed in the relevant provisions of Section 90.713 relating to entry criteria, remain applicable to any planned, primary fixed or paging operations they intend to deploy instead of

[283] *Id*. at 7.

[284] 47 C.F.R. § 90.725(a)(1).

[285] *See* Section 90.713(a)(3) of the Commission's Rules, 47 C.F.R. § 90.713(a)(3).

or in addition to their land mobile operations.

■ In lieu of such a certification, they must revise their financial showings and provide all other relevant certifications, as required under Section 90.713, to demonstrate their ability to construct and operate a nationwide system consisting of primary fixed or paging operations instead of or in addition to their land mobile operations.

All provisions of Section 90.725 relevant to nationwide, commercial licensees will apply to Phase I nationwide licensees operating primary paging systems instead of or in addition to their primary land mobile system. For example, licensees will be required to meet all subsequent construction benchmarks of Section 90.725(a) (*e.g.*, constructing base stations and placing them in operation in 70 geographic areas over a 10-year period in accordance with Section 90.725(a)(4)),[286] licensees will be required to provide system progress reports in accordance with Sections 90.725(d) and (e), and licensees will be subject to the conditions of Sections 90.725(b), (c), and (g). All provisions of Section 90.725 relevant to nationwide, commercial licensees will similarly apply to Phase I nationwide licensees operating primary fixed stations instead of or in addition to their primary land mobile or paging base stations, except that rather than being required to construct base stations (for base and mobile operation) and place them in operation to meet the four-, six- and 10-year construction benchmarks of Section 90.725(a), a licensee operating fixed stations instead of land mobile or paging base stations in any of the geographic areas identified in Section 90.725(a) will be allowed to demonstrate how it is providing substantial service to the public, as defined *supra* for Phase II licensees, in those geographic areas at the prescribed benchmarks.

b. *EA and Regional Licensees*

(1) Proposal

160. We proposed a similar construction requirement for EA and Regional licensees as we proposed for nationwide, Phase II licensees. We patterned this construction requirement after our construction requirement for 900 MHz SMR (MTA) licensees, and thus proposed that EA and Regional licensees be required to construct base stations to provide coverage to one-third of the population of their EA or Region within five years of initial authorization and two-thirds of the population of their EA or Region within 10 years. In the *Third Notice*, we proposed construction requirements for EA and Regional licensees in the 220 MHz service that paralleled the three- and five-year construction requirements for the 900 MHz SMR service, but proposed that Phase II 220 MHz licensees meet these requirements at five- and 10-year intervals. We also proposed to allow EA and Regional licensees, as an alternative to meeting this standard construction requirements, to submit showings demonstrating the provision of appropriate levels of substantial service to the public at their interim and final construction benchmarks.[287]

161. In proposing these coverage requirements, we acknowledged that Phase II licensees will have to provide co-channel protection to incumbent licensees and that this could inhibit their ability to meet the requirements. We tentatively concluded, however, that Phase II 220 MHz licensees should have to meet their construction requirements, even if some or all of their channels

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[286] *See also* Section 90.713(a)(1) of the Commission's Rules, 47 C.F.R. § 90.713(a)(1).

[287] *Third Notice*, 11 FCC Rcd at 235 (para. 94).

are authorized to co-channel Phase I licensees in their area. Finally, consistent with our proposals for the nationwide 220 MHz service, we proposed that EA and Regional licensees be required to submit maps and other supporting documents to demonstrate compliance with their interim and final construction benchmarks, and that failure on the part of a licensee to meet either its interim or final construction requirement will result in forfeiture of its authorization.[288]

(2) Comments

162. AMTA supports our proposed construction requirements for EA and Regional licensees ``given the geographic size of these authorizations in comparison with other wireless services, and the fact that these frequencies likely will be `encumbered' by Phase I licensees in major markets."[289] Comtech notes that under our current rules, licensees must construct all of their channels at their authorized base station location to meet their construction requirement. Comtech is concerned that, because Phase II licenses must protect multiple Phase I licensees under our contiguous channel assignment configuration, ``Phase II licensees will likely be unable to construct all of their channels at a single site."[290] It therefore suggests that Phase II licensees be permitted to ``construct any subset of their authorized channels in their licensed service area, so as to provide substantial service [in accordance with Section 22.940] to the required population or coverage area."[291]

(3) Decision

163. We will require EA and Regional licensees implementing land mobile or paging systems to construct base stations to provide coverage to at least one-third of the population of their EA or Region within five years of initial authorization and at least two-thirds of the population of their EA or Region within 10 years of initial authorization. We will allow certain EA and Regional licensees to meet the ``substantial service" construction requirement, as described *supra* for nationwide licensees, as an alternative to meeting the standard construction requirement. The option of providing a showing of substantial service will be available to those EA and Regional licensees that are offering fixed services as part of their EA or Regional system *and* to those licensees who, because of the existence of one or more incumbent co-channel licensees in their EA or Region, can only provide service to populations *outside* of the areas served by these incumbents. As we indicated in our *900 MHz SMR Third Order* with regard to our use of a coverage requirement for 900 MHz MTA licensees, our standard construction requirement for EA and Regional licensees is not intended to act as a deterrent to individuals seeking EA or Regional licenses. By providing the ``substantial service" option, we afford sufficient flexibility to enable EA and Regional licensees who are providing new, *e.g.*, fixed services -- or are capable of only serving what are now unserved populations -- to satisfy a

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[288] *Id*. at 236 (para. 96).

[289] AMTA Comments at 16.

[290] Comtech Comments at 6.

[291] *Id*. at 7.

construction requirement.[292] We also clarify that, as we indicated in the *900 MHz SMR Third Order on Reconsideration* with respect to 900 MHz MTA licensees, EA and Regional 220 MHz licensees will not be permitted to count the resale of the services of other providers in their EA or Region, *e.g.*, incumbent 220 MHz licensees, to meet the construction requirement.[293] Licensees will be required to demonstrate the provision of appropriate levels of substantial service to the public at their five- and 10-year construction benchmarks. We will not adopt a particular measure of ``substantial service" for these licensees, but will consider their showings on a case-by-case basis.

164. We also require licensees, in meeting either the standard construction requirement or the substantial service requirement, to submit maps and other supporting documents to demonstrate compliance with the benchmarks. Failure on the part of a licensee to meet its construction requirement at either of its benchmarks will result in automatic cancellation of its authorization. Thus, an EA or Regional licensee failing to meet its construction requirement will lose its authorization; it will not be converted to individual, site-by-site authorizations for already constructed stations. As we have previously noted, Phase I, non-nationwide licensees will be permitted to begin operating primary, fixed or paging operations *only* after meeting the requirement that they construct their land mobile base station (for base and mobile operations) and place it in operation or commence service.

165. Finally, Comtech is concerned that Phase II licensees will have difficulty meeting our construction requirements due to the fact that under our proposed band plan, which was composed entirely of contiguous channel assignments, they would have been required to protect multiple Phase I licensees. While our adopted band plan, as we have discussed, reduces the number of Phase I licensees a Phase II licensee must protect, we agree with Comtech that Phase II licensees should not be required, in implementing their systems, to construct and place in operation all of their authorized channels at all base station locations. Such a requirement would not provide EA and Regional licensees with flexibility to construct their base stations in a manner that best serves their technical and operational requirements; the requirement thus could have an adverse effect on the ability of these licensees to meet the needs of their customers. We will therefore not require EA and Regional licensees to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

c. *Licensees on Public Safety and EMRS Channels*

166. Because we tentatively concluded in the *Third Notice* that the Public Safety and EMRS channels should continue to be authorized on a single-station basis, we proposed to continue to require Phase II licensees operating on these channels to meet the existing 12-month

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[292] *See* 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, PR Docket No. 89-553, and Implementation of Sections 3(n) and 322 of the Communications Act, Third Order on Reconsideration, GN Docket No. 93-252, 11 FCC Rcd 1170 (para. 2) (1995) (*900 MHz SMR Third Order on Reconsideration*).

[293] *Id.* at paras. 3-4.

construction requirement for non-nationwide 220 MHz licensees.[294] There are no comments on this issue, and we adopt our proposal to require Phase II licensees operating on the Public Safety and EMRS channels to construct their authorized base station and place it in operation within 12 months of initial authorization. Failure to meet this requirement will result in automatic cancellation of the licensee's authorization.

d. *General Construction Requirements Policy*

167. In the *Third Notice*, we sought comment on our specific construction requirement proposals for 220 MHz licensees. We did not, however, directly request comment on whether construction requirements of any type were in fact necessary and appropriate, and no party argues here that such requirements are unnecessary or counter-productive. Based on the record in this instant proceeding, and in light of the policy considerations we have expressed in our *Wireless Communications Service Report and Order*[295] we have concluded that it is appropriate at this time to establish construction requirements for the 220 MHz service.

168. We note, however, that in the *Wireless Communications Service Notice* we had asked for comment on whether any construction requirements are required or appropriate for that new wireless service.[296] We stated there that while Section 309(j) of the Communications Act requires ``safeguards" and ``performance requirements," with the aim of preventing uneconomic spectrum warehousing and promoting service to rural areas, we have never concluded that traditional construction requirements are the only way to satisfy the requirements of Section 309(j). We stated further that construction requirements in some cases may be unnecessary, ineffective, and potentially harmful, and that there may be better approaches to satisfying the objectives of Section 309(j). In the *Wireless Communications Service Report and Order*, we adopted a requirement that a licensee provide substantial service to its area within 10 years of initial authorization. In light of our decision in the *Wireless Communications Service Report and Order* to adopt liberal construction requirements,[297] we may choose to reassess the nature of construction requirements in the 220 MHz band at some time in the future.

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[294] *Third Notice*, 11 FCC Rcd at 236 (para. 97).

[295] *See* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, GN Docket No. 96-228, Report and Order, FCC 97-50, (released Feb. 19, 1997) (*Wireless Communications Service Report and Order*). *See also* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, GN Docket No. 96-228, Notice of Proposed Rule Making, FCC 96-441 (released Nov. 12, 1996) (*Wireless Communications Service Notice*).

[296] *See Wireless Communications Service Notice* at paras. 56-61.

[297] *See Wireless Communications Service Report and Order* at para. 112.

6. Protection of Phase I Licensees

a. *Proposal*

169. In the *Third Notice* we considered whether to establish a minimum co-channel separation between Phase I and Phase II stations to ensure that EA and Regional licensees, in constructing their facilities, do not cause interference to co-channel Phase I licensees. Specifically, we proposed that EA and Regional licensees ordinarily not be permitted to construct their stations less than 120 kilometers from constructed and operating Phase I, co-channel stations.[298] In order to accommodate EA and Regional licensees that may choose to employ low-power stations, we indicated that we would allow, as currently provided in the rules with regard to Phase I licensees, Phase II licensees to operate less than 120 kilometers from co-channel stations if they provide the Commission with a technical analysis demonstrating at least 10 dB protection to the 38 dBuV/m contour[299] of the existing licensee's station.[300] We also proposed that a Phase II licensee be allowed to construct and operate stations less than 120 kilometers from an existing co-channel station or with less than 10 dB protection to an existing co-channel station's 38 dBuV/m contour if the Phase II licensee obtains the consent of the affected co-channel licensee.[301]

b. *Comments*

170. Those commenters expressing views on this subject are opposed to our proposal. For example, E.F. Johnson contends that ``it is apparent, without further study, that the Commission's presumptions concerning co-channel protection [are] inaccurate. 220-222 MHz systems propagate much further than the Commission anticipated. While the Commission plainly cannot change the 120 km separation requirement between Phase I licensees, it should modify the co-channel separation standard for Phase II licensees."[302] E.F. Johnson recommends that Phase II licensees be required to protect a Phase I licensee's 28 dBu contour. E.F. Johnson argues that ``[t]his coverage area more accurately signifies where a reliable signal may be received by a

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[298] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

[299] *Id.* We proposed that this 10 dB of protection must be demonstrated by showing that the predicted signal from an EA or Regional licensee's station(s) does not exceed 28 dBuV/m at the predicted 38 dBuV/m contour of the Phase I licensee's station(s). The predicted signal from the EA or Regional licensee's station would be calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10a), with a 9 dB correction factor for antenna height differential. The predicted signal(s) from the Phase I licensee's station would be calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10), with a 9 dB correction factor for antenna height differential. We also proposed to modify Section 90.723(f) to identify use of these field strength charts as the appropriate method for calculating the prescribed 10 dB protection a Phase I licensee must provide to another co-channel Phase I licensee.

[300] *Third Notice*, 11 FCC Rcd at 237 (para. 99).

[301] *Id.*

[302] E.F. Johnson Comments at 7.

mobile unit affiliated with a licensee."[303]

171. AMTA advocates that a Phase II licensee not ``exceed 28 dBu at the Phase I licensee's 28 dBu contour."[304] Incom, in its comments, indicates that its customers ``are routinely receiving reliable service at the 32 dBuV/m contour . . . ," and concludes that ``the Commission must modify [its rules] to provide for 10 dB protection to the 32 dBuV/m contour, as opposed to the 38 dBuV/m contour."[305] Incom states that in the cellular radio service, we initially adopted rules limiting a cellular station's ``protected service area" to a 39 dBu contour, but later ``adopted a 32 dBu standard,"[306] and that we originally established a 15-mile protected service area in the MMDS and ITFS services, but then increased it to 35 miles.[307] Incom argues that we should similarly acknowledge that we were equally incorrect in originally establishing the 38 dBu service contour for the 220 MHz service -- and that we should now recognize our error and change the 220 MHz service contour to 32 dBu.[308] Finally, Incom, in its reply comments, states that the 1993 Budget Act ``obligates the Commission to make rules that eliminate inconsistencies between similar mobile services."[309] Incom argues that ``[o]ne conceivable reason for this dissimilar treatment is that the cellular industry is a more powerful lobbying group than the 220-222 MHz industry. Another conceivable reason is that the Commission is attempting to create value for auction bidders by selling off areas already receiving reliable service from incumbents, which is an abdication of the Commission's spectrum management responsibility and a tremendous disservice

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[303] *Id*. E.F. Johnson, in its Comments, indicated that its recommendation is ``tentative," pending the outcome of what it understood to be AMTA's subsequent evaluation of ``the protection needed between co-channel 220 MHz licensees."

[304] AMTA Reply at 2-3. *See also* SMR Reply at 8; U.S. Mobilcomm Reply at 1; Securicor Reply at 5, all endorsing AMTA's position, and Comtech Comments at 14-15 (recommending that ``the Commission insure that Phase II licensees do not exceed 28 dBuV/m at the Phase I licensee's 28 dBuV/m contour.").

[305] Incom Comments at 5. In its Reply Comments at 2, Incom supports AMTA's position.

[306] *Id*. at 4-5. We have always considered a cellular licensee's ``protected service area" to be its Cellular Geographic Service Area (CGSA). Prior to 1992, the CGSA was an arbitrary line drawn by a cellular applicant on a map, and had no connection to any particular field strength. The 39 dBuV/m contour, prior to 1992, was used to determine if a licensee was providing ``reliable service" over at least 75% of the area or population within its arbitrarily drawn CGSA and to evaluate *de minimis* extensions. Since the adoption of the Second Report and Order in CC Docket No. 90-6, a formula-based calculation of the ``service area boundary" has been used to determine the licensee's CGSA. The service area boundary, as calculated using the formula, closely approximates the results one would obtain using the Carey propagation curves to predict the distance of the median 32 dBu contour. Thus, there is no direct connection between our use of the 39 dBuV/m contour prior to 1992, and the determination of cellular ``protected service areas," as Incom appears to suggest. *See* Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, Second Report and Order, 7 FCC Rcd 2449 (1992) (*Cellular Unserved Second Report and Order*).

[307] Incom Comments at 5.

[308] *See id*. at 4-5, 7-8.

[309] Incom Reply Comments at 3.

to the public. Neither of these reasons would withstand judicial review."[310]

172. Roamer One asserts that the Commission should provide 10 dB protection to a Phase I licensee's 28 dBu contour, arguing that ``[its] experience -- as is that of the entire 220-222 MHz industry -- is that the typical 220-222 MHz system provides reliable service for roughly 40 miles . . . ."[311] Finally, Kelley believes that by ``under estimat[ing] [sic] the excellent propagation characteristics of narrowband single sideband signals at 220 MHz, [the Commission's proposal] will set the stage for a cacophony of interfering signals near the weak signal but still useable border area of every co-channel Phase I and Phase II station, seriously degrading overall service to the public."[312] Therefore, Kelley recommends that we adopt an easy to use distance-based protection criteria, and suggests that a 130 km standard be employed, with an additional correction factor of 5 or 10 km for mountaintop stations.[313]

c. *Decision*

173. We continue to believe that EA and Regional licensees should be required to locate their base stations at least 120 km from the base stations of co-channel Phase I licensees,[314] except that such licensees should be permitted to locate their base stations less than 120 km from the base stations of co-channel Phase I licensees if they provide 10 dB protection to the predicted 38 dBuV/m service contour of the base stations of co-channel Phase I licensees. Phase II licensees may meet this requirement, as currently provided in our rules,[315] by submitting a technical analysis demonstrating that the predicted 28 dBuV/m interfering contour of their base station does not overlap the predicted 38 dBuV/m service contour of the Phase I licensee's base station.[316] Such submissions shall be considered on a case-by-case basis. Also, as proposed, a Phase II licensee may construct and operate a base station less than 120 kilometers from an existing co-channel base station or with less than 10 dB protection to an existing co-channel station's predicted 38 dBuV/m contour if the Phase II licensee obtains the consent of the affected co-channel licensee.

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[310] *Id.* at 3 n.3.

[311] Roamer Comments at 5, 6 (emphasis omitted).

[312] Kelley Comments at 5.

[313] *Id.*

[314] The term ``base stations" in this Section and the following Section (addressing the issue of field strength limits at EA and Regional borders), refers to land mobile base stations, paging base stations, or fixed stations operating on the 220 MHz base station frequencies (*i.e.*, frequencies in the 220-221 MHz band).

[315] *See* Section 90.723(f) of the Commission's Rules, 47 C.F.R. § 90.723(f).

[316] The predicted signal from the Phase II licensee's station will be calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10a), with a 9 dB correction factor for antenna height differential. The predicted signal from the Phase I licensee's station would be calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of the Commission's Rules (Figure 10), with a 9 dB correction factor for antenna height differential. As proposed in the *Third Notice*, we will modify Section 90.723(f) of the Commission's Rules to identify use of these field strength charts as the appropriate method for calculating the prescribed 10 dB protection a Phase I licensee must provide to another co-channel Phase I licensee. *Third Notice*, 11 FCC Rcd at 237 n.151 (para. 99).

174. The predicted 38 dBuV/m contour of the Phase I licensees will be calculated based on the licensee's authorized effective radiated power (ERP) and antenna height-above-average-terrain (HAAT) -- not on the maximum allowable ERP and HAAT provided in our rules for the 220-222 MHz band. Licensees shall be required to operate at their initially authorized ERP and HAAT, and will not be permitted to seek modification of their authorization to operate at a higher ERP or HAAT.[317] Licensees operating at power levels lower than their initially authorized ERP shall be required to seek modification of their authorization to reflect the lower ERP. By operating at such lower power levels, licensees shall receive less protection than they would have received by operating at their initially authorized ERP. We reach this decision because our ultimate goal is to provide 220 MHz service to the public. If we protect Phase I licensees beyond the predicted 38 dBu contour associated with their initially authorized height and power, then these licensees would be protected beyond the area that they had sought to serve. In addition, we do not think it would be appropriate to allow Phase I licensees to expand their service areas by increasing their power or antenna height without allowing the filing of mutually exclusive applications. Because Phase II licensees will have sought authorization for a large geographic area, we believe that it is appropriate to allow them to serve any portion of their licensed geographic area, except for portions of the area already being served by co-channel Phase I licensees. We also believe that it is likely that Phase II licensees will want to provide service to those areas that would have been protected if we had assumed herein that Phase I licensees are operating at maximum allowable height and power.

175. We reject the arguments of commenters who believe that we should provide greater protection to Phase I licensees' base stations. Commenters suggest that we protect a Phase I licensee's 32 dBu contour or 28 dBu contour because, they claim, ``reliable'' 220 MHz signals are being received by mobiles and ``reliable service'' is being provided at distances from base stations farther than the 38 dBu contour. We decline to adopt the suggestions made by commenters because their arguments are not consistent with the methodology we have used to provide for co-channel protection for incumbent licensees in other auctionable land mobile services (*e.g.*, 800 MHz and 900 MHz SMR). Commenters have failed to explain why we should adopt a different methodology for determining co-channel protection (*e.g.*, affording protection to a contour at which commenters claim ``reliable'' signals are being received). Therefore, as we explain in the following paragraphs, we continue to believe that our methodology for determining Phase I co-channel protection was appropriate and should also be used to determine the protection that Phase II licensees must afford to Phase I licensees.

176. In the 800 MHz and 900 MHz services, as well as the 220 MHz service, our rules provide a certain degree of protection to a particular, ``desired'' signal contour of a base station, under the assumption that an ``undesired'' interfering signal from a co-channel base station will be present. For example, when we first determined the appropriate interference protection criteria for land mobile stations operating in the 800/900 MHz bands, we decided that our goal in establishing parameters for 900 MHz stations was to provide ``a high quality signal to about 50 percent of the locations, 50 percent of the time, within the service area of the stations.''[318] We

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[317] In the *220 MHz Second Report and Order*, we did permit Phase I licensees to seek modification of their authorizations to *relocate* their base stations. *See 220 MHz Second Report and Order*, 11 FCC Rcd 3668.

[318] *See* An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operation in Land Mobile Services Between 806 and 960 MHz, Docket No. 18262, Second Report and Order, 46 FCC 2d 752, 774 n.26 (para. 76)

concluded that to accomplish this objective, ``the average desired signal should be 40 dBu at the edge of the service area."[319] This, we stated, would ``give a high level of service in the area in which [the licensee] planned to operate."[320] We concluded that, to maintain this quality of service in the presence of an interfering signal, the interfering signal ``should be 10 dB less than the desired signal at the boundary of the service area of the protected station."[321]

177. Similarly, in the 220 MHz service we proposed to adopt technical parameters to ``enable private land mobile licensees to obtain quality service . . ."[322] and we determined that a 220 MHz station should be protected from interference by the provision of 10 dB protection to the station's 38 dBu contour.[323] E.F. Johnson states that ``reliable" 220 MHz signals may be received at more distant contours than the 38 dBu contour.[324] Other commenters state that ``reliable service" is being provided at such contours.[325] However, these commenters do not define what is meant by a reliable signal or reliable service in the context of the 220 MHz service -- nor do they draw a relationship between the use of these terms and our adoption of criteria to provide for the *protection* of 220 MHz signals in the presence of interfering signals. The signal contour at which they claim ``reliable service" may be provided or where a ``reliable signal" may be received by a mobile (*e.g.*, the location of the 32 dBu or 28 dBu contour) is therefore not determinative in deciding the appropriate 220 MHz signal contour to be protected.

178. Incom argues that we should modify the 38 dBu service contour for the 220 MHz service because we have changed the method by which protected service areas for cellular service are determined,[326] and have also changed the distance that defines protected service areas for MMDS stations.[327] However, as explained in footnote 306, our action in the *Cellular Unserved Second Report and Order* was not an adjustment from one field strength level to another; rather,

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(1974), *recon. granted in part*, 51 FCC 2d 945, *clarified*, 55 FCC 2d 771 (1975), *aff'd sub nom.* NARUC v. FCC, 525 F. 2d 630 (1976), *cert. denied*, 425 U.S. 992 (1976).

[319] *Id.*

[320] *Id.*

[321] *Id.*

[322] *220 MHz Notice*, 4 FCC Rcd at 8601 (para. 55).

[323] *220 MHz Report and Order*, 6 FCC Rcd at 2371 (para. 119).

[324] *See* E.F. Johnson Comments at 7.

[325] *See* Incom Comments at 5; Roamer One Comments at 5, 6.

[326] See para. 171, *supra*.

[327] Incom Comments at 5 (citing Amendment of Parts 21, 43, 74, 78 and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting Private Operational-fixed Microwave Service, Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service, GN Docket Nos. 90-54 and 80-113, Second Order on Reconsideration, 10 FCC Rcd 7074 (1995) (*Second Order on Reconsideration*).

it was a fundamental change in the methodology for determining a cellular licensee's CGSA, from an arbitrarily determined area to one that is based on the technical parameters of authorized existing and proposed facilities. Similarly, in the MMDS service, while we increased the ``protected service area'' for MMDS stations, we did not indicate that we did so in an effort to expand the area within which quality television service signals could be provided.[328] Thus, we find that one of the principal objectives of our signal protection rules for the 220 MHz service -- the design of technical parameters to enable licensees to obtain quality service -- does not have a parallel in the MMDS service, and, therefore, we reject Incom's unsupported suggestion that the MMDS decision is somehow relevant to the issues presented here. Further, no commenter has provided assurance that this principal objective would not be compromised by proposals to provide protection to other than the 38 dBu contour.

179. We do not believe, therefore, that these actions should be applied to our use of the 38 dBu service contour as the protected contour for the 220 MHz land mobile radio service. Moreover, we conclude that our recent decisions in which we *have* examined the protected contour for other mobile services support our decision to not change the 38 dBu contour for the 220 MHz service. For example, in our proceedings addressing the licensing of the 800 MHz and 900 MHz SMR service, we proposed the continued use of the *40* dBu contour as the basis for protection for these services. In both instances, we concluded that we should continue to base interference protection in these services on the provision of protection to the 40 dBu contour.[329] In the *800 MHz SMR Report and Order*, for example, we decided to ``require EA licensees to afford interference protection to incumbent SMR systems, as provided in Section 90.621 of the Commission's rules''[330] -- which provides for protection of a licensee's 40 dBu contour. In support of our decision, we stated that this will ``ensure adequate protection of incumbent operations, without hampering the ability of EA licensees to construct stations throughout their authorized service areas.''[331] For all of these reasons, we believe that it is appropriate to continue to employ the predicted 38 dBu contour as the contour that must be protected by co-channel 220 MHz licensees, and thus we will require Phase II licensees to provide 10 dB protection to the predicted 38 dBu service contour of the base stations of Phase I licensees.

7. Field Strength Limit at EA and Regional Border

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[328] *See Second Order on Reconsideration* at 7078 (para. 9).

[329] *See* 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, Implementation of Sections 3(n) and 322 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463 (1995) (*800 MHz SMR Report and Order*); 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 to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Second Report and Order and Second Further Notice of Proposed Rule Making, 10 FCC Rcd 6884 (1995) (*900 MHz SMR Second Report and Order*).

[330] *800 MHz SMR Report and Order*, 11 FCC Rcd at 1516 (para. 92).

[331] *Id. See also 900 MHz SMR Second Report and Order*, 10 FCC Rcd at 6899-6900 (para. 44), where we decided to continue to base interference protection on the provision of protection to the 40 dBu contour.

a. *Proposal*

180. In the *Third Notice* we indicated that our existing rules for the 220 MHz service do not define a particular ``service area" for non-nationwide stations, but indicated that, as discussed in the *220 MHz Report and Order*, stations operating at maximum authorized power and antenna height would ``provide a service area with a 38 dBu contour at about 45 kilometers (28 miles)."[332] We further pointed out that for various wireless communications services that we license within Commission-defined geographic areas (*e.g*., PCS, 900 MHz SMR) we prescribe limits on the strength of signals licensees may provide at the borders of their service areas.[333] We thus concluded that, for effective operation, a Phase II licensee should be permitted to transmit a signal of at least 38 dBuV/m throughout its area of service, and we therefore proposed a field strength limit of 38 dBuV/m at the border for EA and Regional 220 MHz licensees.[334] In order to allow licensees flexibility to exceed this limit if necessary, we also proposed that licensees be allowed to transmit signals greater than 38 dBuV/m at their border if all affected, co-channel EA and Regional licensees agree to the higher field strength. We also indicated that, when such agreements are in place among co-channel licensees, if interference were to occur to transmissions at or near the border between co-channel licensees, licensees would be expected to coordinate with one another and modify their facilities as necessary to minimize interference.

b. *Comments*

181. Commenters were opposed to our proposal to limit the base station transmissions of EA and Regional licensees to 38 dBu at their borders. Comtech, for example, contends that its systems can ``provide reliable communications well beyond the predicted 38 dBu contour, in the absence of co-channel interference." Comtech believes that if we adopt the proposed 38 dBu limit at EA and Regional borders, ``co-channel interference is likely to arise as a significant limitation to service along a system's border." Therefore, Comtech proposes a 28 dBu standard at the borders.[335] AMTA believes that in conjunction with its proposal that Phase II licensees not exceed 28 dBu at Phase I licensees 28 dBu contour, ``allowing Phase II licensees to provide a signal strength of 28 dBu at borders will provide signal parity between existing and new licensees."[336]

c. *Decision*

182. We have concluded that the predicted 38 dBu service contour is the appropriate field strength contour that should be protected from co-channel interference for the 220 MHz service. Thus, to allow two Phase II licensees operating in adjacent EAs or Regions to each employ a 38

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[332] *220 MHz Report and Order*, 6 FCC Rcd at 2371 (para. 115).

[333] *See, e.g.*, Sections 24.236 and 90.671 of the Commission's Rules, 47 C.F.R. §§ 24.236, 90.671.

[334] In calculating the predicted 38 dBuV/m contour resulting from the transmissions of their base stations, licensees will use the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of our Rules (Figure 10), with a 9 dB correction factor for antenna height differential. *See* 47 C.F.R. § 73.699.

[335] Comtech Comments at 12.

[336] AMTA Reply Comments at 3.

dBu field strength at their border could conceivably result in interference at or near such borders. However, if we were to require that licensees provide a field strength lower than 38 dBu at their borders, we might unnecessarily restrict their ability to provide a quality service to mobiles operating in those areas. Thus, we conclude that to afford Phase II licensees the maximum degree of flexibility in designing their systems and provide a quality signal to all parts of their service area, we will permit licensees to transmit up to a predicted 38 dBu field strength at their border.[337] As proposed, we will also allow licensees to exceed this limit if all affected, co-channel EA and Regional licensees agree to a higher field strength. In instances where interference occurs between co-channel licensees at or near their borders -- *i.e.*, when licensees are operating at or below field strength levels of 38 dBu at the border, or when licensees are operating at greater field strength levels pursuant to agreements with co-channel Phase II licensees -- we will expect licensees to coordinate amongst themselves to minimize such interference and to cooperate to resolve any interference problems that may arise.[338]

D. APPLICATION PROCEDURES

1. Pending Applications for 220 MHz Channels

a. *Proposal*

183. The Commission indicated in the *Third Notice* that it had not yet requested the amending information necessary to process the 33 pending Phase I applications for the nationwide, non-commercial channels.[339] The Commission sought comment on three different means by which to address the pending applications:[340]

- Return the applications without prejudice, as well as the appropriate filing fees, to the 33 applicants, establish a date for the filing of ``short-form" applications for nationwide licenses, and auction mutually exclusive applications.

- Act on the pending petitions for reconsideration of the Commission's June 21, 1993, Order, solicit the required amending information from the 33 applicants, and then conduct a lottery to award the four available nationwide licenses.

- Grant authorizations among the 33 applicants through comparative hearings.

The Commission sought comment regarding the advantages and disadvantages of each of these proposals, and encouraged commenters to address factors that should be deemed relevant for purposes of ascertaining the most appropriate handling of the applications.

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[337] As proposed in the *Third Notice*, in calculating the predicted 38 dBuV/m contour resulting from the transmissions of their base stations, licensees will use the F(50,50) field strength chart for Channels 7-13 in Section 73.699 of our Rules (Figure 10), with a 9 dB correction factor for antenna height differential. *Third Notice*, 11 FCC Rcd at 237 (para. 99) (citing 47 C.F.R. § 73.699 (Fig. 10)).

[338] *See, e.g.*, Section 90.173(b) of the Commission's Rules, 47 C.F.R. § 90.173(b).

[339] *Third Notice*, 11 FCC Rcd at 206 (para. 30).

[340] *Id.*

184. The Commission also observed that, although it has processed nearly all of the 60,000 applications filed for non-nationwide licenses, there are five groups of applications, totalling 34 applications, that were filed on the final day the Commission accepted 220 MHz applications and are mutually exclusive with one another.[341] The Commission sought comment on whether the Commission should resolve these mutually exclusive situations using competitive bidding, lotteries, or comparative hearings.[342]

b. *Comments*

185. Commenters disagree regarding how the Commission should treat pending applications for 220 MHz licenses. Many commenters, particularly Phase I 220 MHz non-commercial, nationwide applicants, urge that we exercise our discretion to use lotteries.[343] Several of these commenters, however, believe that licenses should be awarded by lottery only if the licenses are designated strictly for non-commercial purposes and licensees are restricted from leasing excess capacity.[344]

186. Some commenters who support lotteries base their reasoning on equitable arguments, contending that it would be unfair to applicants who applied in good faith, in accordance with then existing rules, for the Commission to change the rules with respect to these applications.[345] A number of commenters argue that the applicants acted in reasonable reliance on these rules, spending valuable time and money on these applications,[346] and that their business plans did not take into account the possibility that these licenses subsequently might be awarded through competitive bidding.[347] Columbia, Mtel, and WLF contend that a refund of applicants' filing fees is not a sufficient step for the Commission to take, because applicants incurred other out of pocket expenses.[348] Some commenters point out that the delay in processing

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[341] *Id*. at 206 (para. 31).

[342] *Id*.

[343] Airborne Comments at 2; AMTA Comments at 8-11; AMTA Reply at 6-7; Columbia Comments at 2-10; Comtech Comments at 2-4; Comtech Reply at 2-4; Fleet Comments at 2; Global Comments at 1-2; Mtel Comments at 1-10; Mtel Reply at 2-3; PCIA Comments at 5-6; PNC Comments at 4-14; Roamer Comments at 1-2 (supporting position taken by AMTA on this issue); Securicor Comments at 16; 360 Mobile Comments at 1-2; U.S. Central Comments at 1-2; UTC Comments at 3-8; WLF Comments at 2-5.

[344] AMTA Reply at 7 n.12; Comtech Reply at 3. These parties agree that if there is any possibility that these licenses may be used for commercial purposes then they should be awarded by competitive bidding.

[345] *See* AMTA Comments at 8-9; AMTA Reply at 6-7; Columbia Reply at 3; Ericsson Comments at 2-3; Mtel Comments at 10; Mtel Reply at 2-3; WLF Comments at 3-4; Securicor Comments at 16; U.S. Central Comments at 1-2; 360 Comments at 2-3.

[346] Fleet Comments at 2; PNC Comments at 6-8; Columbia Comments at 10; Mtel Comments at 9-10; WLF Comments at 4.

[347] Global Comments at 3; PNC Comments at 9; WLF Comments at 4.

[348] Columbia Comments at 10; Columbia Reply at 6-7; Mtel Comments at 9-10; WLF Comments at 4.

these applications was caused by the Commission and not by the applicants.[349]

187. Other commenters believe there are equally strong equitable arguments for returning the pending applications and awarding these nationwide licenses through auctions.[350] They point out that, with the dramatic change in circumstances due to the comprehensive restructuring of the rules governing 220 MHz service undertaken by the Commission in this proceeding, it would be unfair to move forward with the original applications.[351] If the licenses are redesignated for commercial use it is unfair to limit the pool of applicants to those who applied for non-commercial licenses and consequently to prevent other parties who desire commercial 220 MHz spectrum from obtaining it.[352] Pagenet contends that pending applicants would be unjustly enriched if permitted to obtain licenses through a lottery process.[353] SMR asserts that it may be true that these applicants applied in good faith, but it is also true that they have not yet incurred significant costs associated with their pending applications, and, in any event, their filing fees would be refunded under the competitive bidding option posed by the Commission in the *Third Notice*.[354]

188. Ericsson sets forth a compromise approach in its comments, suggesting that the most equitable solution would be to allocate, by competitive bidding, two nationwide 10 channel blocks for commercial use, and to allocate, by random selection, one nationwide 10 channel block for non-commercial use.[355] Ericsson believes this option accomplishes the Commission's purposes without disadvantaging those applicants who applied for non-commercial licenses.[356]

189. Commenters urge the Commission to avoid delay regarding the licensing of 220 MHz service. For example, Johnson states that it is largely indifferent as to whether the spectrum is allocated for commercial or non-commercial use, or how the licenses are awarded, but it urges the Commission to act expeditiously regardless of the path it takes.[357] PNC believes that choosing auctions over lotteries would lead to additional costs and delays because the Commission would

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[349] Airborne Comments at 2; AMTA Comments at 9; Columbia Comments at 5-6; Columbia Reply at 5-6; PCIA Comments at 5; Securicor Comments at 16; U.S. Central Comments at 1-2; UTC Comments at 5; WLF Comments at 3.

[350] *See* Metricom Comments at 7-8; U.S. Mobilcomm Comments at 4-5; Pagenet Comments at 15-17; Pagenet Reply at 7; SMR Reply at 6.

[351] Metricom Comments at 7-8; U.S. Mobilcomm Comments at 4-5; Pagenet Comments at 15, 17; Pagenet Reply at 7; SMR Reply at 6.

[352] Pagenet Comments at 17; Pagenet Reply at 7; U.S. Mobilcomm Comments at 4-5; Metricom Comments at 7-8.

[353] Pagenet Reply at 7.

[354] SMR Comments at 9.

[355] Ericsson Comments at 3.

[356] *Id.*

[357] Johnson Comments at 3-4.

have to dismiss pending applications, accept new applications, and then conduct an auction.[358] PNC also cites delays that have taken place in conducting previous auctions.[359] SMR contends, however, that there would be even greater delays if lotteries were used because the Commission would have to address several petitions for reconsideration, solicit additional information regarding the pending applications, and then review that information prior to conducting a lottery.[360]

190. Columbia, Mtel, and WLF argue that the pending applicants will be subjected to disparate treatment as compared to other 220 MHz Phase I licensees if the licenses for pending applicants are not awarded by lottery.[361] They point out that these applicants will be singled out unfairly for different treatment and will have to spend substantial sums for their licenses while other Phase I applicants have been permitted to receive their licenses at relatively low cost.[362] On the other hand, Pagenet contends that awarding the licenses by auction is the only way to prevent disparate treatment between winners of the lottery who will, at a minimum, be able to lease excess capacity, and other commercial mobile radio service providers who have paid substantial sums for their spectrum licenses.[363]

191. Commenters generally acknowledge that the Budget Act granted the Commission the discretion to award these licenses by either lotteries or competitive bidding.[364] Several commenters cite two recent decisions, the *MMDS Report and Order* and *Unserved Cellular Lottery Order*, in which the Commission decided to award licenses to pending applicants by lottery rather than by competitive bidding.[365] Mtel, PNC, and Columbia believe that, if the Commission does not follow this precedent in this proceeding, then the Commission would be subjecting these applicants to disparate treatment.[366] Some commenters also argue that the same considerations that led the Commission to decide to award the licenses by lottery in these cases

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[358] PNC Comments at 11-14.

[359] *Id.* at 13.

[360] SMR Comments at 8-9.

[361] Columbia Comments at 6-7; Columbia Reply at 3-4; Mtel Comments at 8-9; WLF Comments at 3.

[362] Columbia Comments at 7; WLF Comments at 3.

[363] Pagenet Comments at 6, 9; Pagenet Reply at 11-12.

[364] Columbia Comments at 2-3; Pagenet Reply at 4-5; PNC Comments at 4; SMR Comments at 6-7; SMR Reply at 6-7; U.S. Mobilcomm Comments at 6-7; WLF Comments at 3.

[365] Columbia Comments at 3; Columbia Reply at 4; PNC Comments at 9-10, 12-13; WLF Comments at 4; Mtel Comments at 8-9; UTC Comments at 7-8; U.S. Central Comments at 1-2.

[366] Mtel Comments at 8-9; PNC Comments at 9-10; Columbia Reply at 4.

are present in this case.[367] Several commenters contend that since the Commission did not have auction authority until after these applications were filed, the Commission cannot now retroactively apply new rules to pending applications.[368] SMR and Pagenet argue, however, that the Commission's action would not result in the retroactive application of our rules.[369] Pagenet contends that there is ample precedent for dismissing pending applications,[370] and also argues that in the *Cellular Lottery Rulemaking*[371] the Commission decided to amend its rules and implemented the use of lotteries for cellular applications that were already on file.[372]

192. Several commenters are concerned that the Commission's willingness to adopt competitive bidding with respect to these licenses indicates that the Commission has decided to elevate revenue raising over the public interest and the needs of potential users.[373] Comtech contends that such a policy is proscribed by the Communications Act.[374] Pagenet, however, argues that auctions allow the Federal Government, on behalf of the American people, to collect some measure of value in return for the use of the public spectrum.[375] Pagenet also argues that under the Communications Act the Commission is charged with promoting the development and rapid deployment of services to the public and ensuring that the spectrum is used productively and efficiently.[376]

193. Pagenet and Metricom assert that using auctions will speed development and lead to the more efficient use of 220 MHz spectrum.[377] Pagenet argues that lotteries do not ensure that

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[367] PNC Comments at 12-13 (delay and costs to the Commission and applicants); PNC Comments at 8-9 (stringent construction and operation requirements will prevent speculation, business plans did not take auctions into account); U.S. Central Comments at 1-2 (delay was not the fault of applicants who had assumed that the Commission would conduct lotteries); UTC Comments at 7-8 (few applications, pending a significant period of time).

[368] AMTA Comments at 8-9; AMTA Reply at 6-7; Global Comments at 2; 360 Mobile Comments at 2; Mtel Comments at 4-5.

[369] SMR Reply at 5; Pagenet Reply at 8-11.

[370] Pagenet Comments at 16; Pagenet Reply at 6.

[371] Amendment of the Commission's Rules to Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings, CC Docket No. 83-1096, Report and Order, 98 FCC 2d 175 (1984) (*Cellular Lottery Rulemaking*). At the time the applications were filed licenses were awarded on the basis of comparative hearings.

[372] Pagenet Reply at 7.

[373] Comtech Comments at 3; Columbia Reply at 7; ITA Comments at 8-9.

[374] Comtech Comments at 3.

[375] Pagenet Comments at 4-5; Pagenet Reply at 11.

[376] Pagenet Comments at 7; Pagenet Reply at 5, 10-11.

[377] Pagenet Comments at 5, 7; Metricom Comments at 7.

the winner will actually provide service, and asserts that many prior licenses granted by lottery were eventually forfeited for failure to construct or were sold prior to construction of any systems to serve the public.[378] Pagenet points out that lottery winners would be more likely to construct a system using relatively inexpensive, spectrum inefficient technology, with an eye toward selling their licenses as soon as the rules permit.[379] Pagenet asserts that the competitive bidding process discourages this type of speculation.[380] Columbia points out, however, that in the case of the 220 MHz spectrum there are stringent entry criteria, build out requirements, and rules to prevent unjust enrichment which will prevent trafficking and speculation in these licenses.[381]

194. SMR argues that awarding licenses through competitive bidding ensures that the spectrum will be held by the parties that value it the most, not by those who are the luckiest.[382] Columbia asserts, however, that a party's ability to pay does not equate with the party who values the spectrum the most, and that the Commission will never be able to meet its statutory obligation to provide spectrum for private, non-commercial requirements under this mistaken rationale.[383]

195. No commenters prefer using comparative hearings rather than lotteries to award these licenses. Airborne is the sole commenter supporting the use of comparative hearings if the Commission were choosing between comparative hearings and auctions.[384] Several commenters cite the delays and costs associated with comparative hearings.[385] PNC believes that comparative hearings do not necessarily result in the selection of more qualified licensees.[386] In addition, commenters assert that the Commission has previously rejected the option of using comparative hearings to award licenses in the *220 MHz Report and Order*, and that there is no need to revisit the issue at this time.[387]

196. Finally, Echo asks that, regardless of the option selected, the Commission allow the

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[378] Pagenet Comments at 5.

[379] Pagenet Comments at 7-8.

[380] Pagenet Comments at 5.

[381] Columbia Comments at 9. *See also* PNC Comments at 9 (build-out requirements).

[382] SMR Comments at 9.

[383] Columbia Reply at 6.

[384] Airborne Comments at 3.

[385] AMTA Comments at 8 n.16; Columbia Comments at 11-12; Pagenet Comments at 5, 7; Pagenet Reply at 5-6; PNC Comments at 17-19; SMR Comments at 8.

[386] PNC Comments at 15-17.

[387] Columbia Comments at 10-11; Mtel Comments at 3; PNC Comments at 14-15; UTC Comments at 4-5.

pending applicants to withdraw their applications and recoup their filing fees.[388] Echo argues that, because of the extended delay, business conditions have changed dramatically and the Commission should accommodate those applicants who have undergone unforeseen changed circumstances by allowing pending applicants this option.[389]

c. *Decision*

197. We find that it is in the public interest to return all pending applications and appropriate filing fees, both nationwide and local, for the 220 MHz service, without prejudice, and to accept new applications after the effective date of our Phase II rules. As we explain below, all mutually exclusive Phase II applications, except those applications for public safety and EMRS channels, will be subject to competitive bidding because they met the criteria for auctionable services.

198. We base our decision on several factors. First, the rules we adopt in this Report and Order will significantly alter the technical and operational rules for the 220 MHz service. Our new 220 MHz rules will afford licensees a great deal more flexibility than the rules in effect when the pending applications were filed. For example, the original rules permitted fixed and paging operations only on an ancillary basis to a licensee's primary land mobile operations. Our action today replaces those rules with a licensing framework that permits 220 MHz licensees to engage in fixed and paging operations on a primary basis. In addition, we have found that geographic, rather than individual site-specific, licensing is more appropriate for the 220 MHz service. We are therefore replacing the prior form of licensing with a framework that provides carriers with an increased degree of flexibility in providing service throughout a geographic license area.

199. The nature of the use for the nationwide channels has changed even more dramatically since the time we originally adopted rules for 220 MHz service. At the time the Commission accepted the pending nationwide applications, the rules specified that these channels could be used for non-commercial purposes and that a licensee could lease excess capacity only after meeting its five-year construction benchmarks.[390] As we have previously concluded, we no longer believe that it serves the public interest to designate these channels for non-commercial use. Instead, we find that the public will benefit by allowing a nationwide licensee the flexibility to use some or all of its licensed 220 MHz spectrum to offer service to the public. We note that two commenters advocating that we lottery pending applications have acknowledged that if the Commission allows these licensees to provide any commercial services, a lottery would not be an appropriate method to award the licenses because auctions provide incentives for more efficient use of the spectrum.[391]

200. We conclude that, because the nature of the 220 MHz service is undergoing such substantial change, it would be unfair to preclude new applicants from having the opportunity to

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[388] Echo Comments at 2-4.

[389] *Id.*

[390] Section 90.733(d) of the Commission's Rules, 47 C.F.R. § 90.733(d).

[391] AMTA Reply at 7; Comtech Reply at 3.

apply for these 220 MHz licenses. In 1991, when the pending applications were filed, parties interested in using the 220 MHz spectrum may have decided not to apply for these licenses because the rules precluded a licensee from offering the type of service that these parties desired to offer, such as primary fixed service, paging, or nationwide commercial service. Although we will not preclude licensees from using their 220 MHz licenses for internal communications or for two-way land mobile communications, we do not believe that pending applicants should be afforded the exclusive benefit of receiving licenses that may be used for substantially different purposes than those for which the licenses originally could be used, and at the same time prevent new applicants who may desire to offer service to the public from having the opportunity to apply for such licenses. We have concluded that such a restriction on the pool of applicants is not equitable, nor is it sound public policy. Opening a filing window for all interested applicants, in our view, will increase the likelihood that competitive processes will trigger the delivery of a broad array of services to customers at reasonable prices.

201. Second, we agree with commenters that comparative hearings would lead to delay of service to the public and would increase administrative costs for applicants and the Commission. As commenters indicate, the Commission previously has considered and rejected the use of comparative hearings to assign 220 MHz licenses from among mutually exclusive applicants.[392]

202. Finally, we note that the Commission has found that auctioning spectrum will benefit the public by ensuring that licenses go to those who value them the most and to those who have an incentive to build their systems quickly, thereby speeding the provision of service to the public.[393]

203. We disagree with those commenters who argue that a decision to return these applications and conduct an auction will increase the likelihood of petitions for reconsideration and court challenges. Given the significant changes to the 220 MHz service rules that we adopt in this Report and Order, we think it is equally likely that a decision to lottery the pending applications would result in the same type of delay because the Commission would foreclose the opportunity for newly interested parties to obtain these licenses, thus exposing the Commission to court challenges from a different direction.

204. We also disagree with commenters arguing that Commission precedent requires that we lottery the pending applications. In the case of cellular unserved area applications, the Commission had not significantly altered the rules for the provision of cellular service, such that a Commission decision might stimulate substantially more interest by potential applicants. Indeed, the geographic area for which an applicant originally applied did not change, nor did the nature of the service. Similarly, in the *MMDS Report and Order,* we specifically stated that ``while we are moving to larger geographic area authorizations and expanded service area protection, we are not fundamentally changing the nature of the service. Licensees still will be providing wireless cable service to subscribers, albeit under altered conditions designed to make the service more competitive with cable television."[394] Additionally, pending nationwide applications are

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[392] *220 MHz Memorandum Opinion and Order*, 7 FCC Rcd at 4488-89 (paras. 17-22).

[393] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2349-50 (paras. 3-5).

[394] *MMDS Report and Order*, 10 FCC Rcd at 9633 (para. 92).

distinguishable from the pending MMDS applications because unlike in the MMDS situation in which the Commission was able to proceed quickly to conduct a lottery, if we decide to award these licenses by lottery the Commission would first have to address petitions for reconsideration of our nationwide, non-commercial decisions, and consequently applicants may have to alter their original submissions.[395]

205. We also disagree with commenters claiming that the Commission does not have the authority to return these pending applications and conduct an auction from among new, mutually exclusive applications. As we explained in the *MMDS Report and Order*, Section 6002(e) of the Budget Act, entitled ``Special Rule," made an exception to the general requirement that, if a service met the standards for auctionability under Section 309(j)(2) of the Communications Act, the Commission could not use a lottery to award licenses for such service. Section 6002(e) permits the Commission to use a lottery to award licenses even for an otherwise auctionable service for applications accepted for filing before July 26, 1993.[396] In adopting this provision, Congress indicated that the exception would ``permit" but not require, the Commission to use lotteries for certain IVDS and ``several other licenses."[397] Since, as we explain below, we find that the 220 MHz service meets the standards for auctionability, the Commission has the authority to award these licenses by competitive bidding.

206. We also agree with Pagenet that there is clear legal precedent for the Commission to dismiss pending applications.[398] Contrary to the views of some commenters, applying new rules to pending applications does not constitute retroactive rulemaking. It is well settled that the Commission may apply new rules to pending applications.[399] As we previously found in the *Part 22 Rewrite Order*, the fact that an application remained pending because of petitions for reconsideration does not affect the Commission's authority to apply new rules to the application.[400] Furthermore, ``[u]ntil action on an application is final, processing has not been completed, and rule changes applied to that application are not retroactive."[401] Because we have decided to return pending applications and open a filing window for new applications before conducting an auction, we need not address contentions in the record that the Commission does not have the authority to conduct an auction that limits participation to parties with pending

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[395] *See id.* at 9632 (para. 90).

[396] *Id*. at 9633 (para. 94).

[397] H. R. Conf. Rep. No. 103-213 at 498, 103rd Cong., 1st Sess., (1993), 1993 U.S.C.C.A.N. 1088 at 1113-14.

[398] Pagenet Comments at 15-16 (citing Private Operational-Fixed Microwave Service, 48 Fed. Reg. 32,578 (1983), *aff'd*, Affiliated Communications Corp. v. FCC, No. 83-1686 (D.C. Cir. May 9, 1985)).

[399] *See, e.g.*, United States v. Storer Broadcasting Co., 351 U.S. 192 (1956); Hispanic Information and Telecommunications Network v. FCC , 865 F.2d 1289 (D.C. Cir. 1989); Maxcell Telecom Plus, Inc. v. FCC, 815 F.2d 1551 (D.C. Cir. 1987).

[400] Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, CC Docket No. 92-115, Report and Order, 9 FCC Rcd 6513, 6534-35 (para. 100) (1994) (*Part 22 Rewrite Order*).

[401] *Id.* at 6535 (para. 100).

applications. Furthermore, since we will be returning the pending applications we find that the Petitions for Reconsideration filed in this matter by Columbia Cellular Corporation, PLMRS Narrowband Corp. and 360 Mobile Data Joint Venture on August 6, 1993 should be dismissed as moot. These petitions requested reconsideration of our 1993 decision in the *220 MHz Second Reconsideration Order*, which only addressed issues concerning non-commercial nationwide 220 MHz licenses.[402] The Petitions for Reconsideration will be moot because we will no longer have a non-commercial designation in the 220 MHz service.

2. Other Applications Issues

207. As we noted in the *Third Notice*, in the *CMRS Third Report and Order*, we adopted rules to govern the filing and processing of applications for Part 90 services reclassified as CMRS that were comparable to our rules for Part 22 services, but declined to consider definitions of initial applications and major or minor modifications and amendments for the 220 MHz service until we more fully examined the service in this rulemaking proceeding. We address these definitions and other application issues below.

a. *Initial Applications*

208. As we observed in the *Third Notice*, we proposed a definition of initial applications for the 220 MHz service that is similar to that adopted in the *CMRS Third Report and Order* for other mobile services that are licensed on a market or geographically-defined basis. Specifically, we propose to define an initial application for a 220 MHz license as an application for an EA, Regional, or nationwide license, regardless of whether the applicant is an incumbent 220 MHz licensee in the geographic area covered by the requested license.
No comments were received regarding this issue. We will therefore define initial applications for the 220 MHz service as proposed.

b. *Amendment of Applications and Modification of Authorizations*

209. In the *Third Notice*, we proposed to adopt rules consistent with other reclassified Part 90 services to govern amendments to applications and modification of Phase II licenses. We thus proposed that applicants for the Phase II licenses have a limited opportunity to cure minor defects in their short-form applications and not be allowed major amendments after the expiration of the short-form filing window.[403] We also noted that a nationwide, EA, or Regional licensees generally would not seek major modification other than in the case of assignments or transfers of control.[404] We received no comments on this issue. We thus adopt our proposed limitations for filing amendments to applications, and will permit Phase II licensees to file modifications to their licenses only in cases of assignments or transfers of control.

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[402] *220 MHz Second Reconsideration Order*, 8 FCC Rcd 4161.

[403] Sections 24.422 and 24.822 of the Commission's Rules, 47 C.F.R. §§ 24.422, 24.822.

[404] 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, RM-8117, RM-8030, RM-8029, and Implementation of Section 309(j) of the Communications Act - Competitive Bidding: 800 MHz SMR, PP Docket No. 93-253, Further Notice of Proposed Rule Making, 10 FCC Rcd 7970 (1994) (*800 MHz Further Notice*).

c. *Special Temporary Authority*

(1) Proposal

210. In the *Third Notice*, we noted that under the *CMRS Second Report and Order*, all paging services and all private mobile licensees reclassified as CMRS and licensed to provide service as of August 10, 1993 were afforded a three-year grandfathering period under the Part 90 PMRS rules.[405] In the *CMRS Third Report and Order*, we had concluded that ``licensee status before the August 10, 1993 deadline is the sole factor in determining whether the licensee will be treated as being in the PMRS until August 10, 1996."[406] Some reclassified PMRS providers have Part 90 STAs or conditional grants that were in effect at the time we adopted the *CMRS Third Report and Order*. However, we concluded that such STAs or conditional grants would be extended only until August 10, 1996, when their reclassification as CMRS becomes effective.[407] Additionally, we concluded that: (1) reclassified PMRS that were not grandfathered under the Part 90 rules and that had STAs or conditional grants only possessed such grants until the grants' scheduled expiration, or 60 days from the effective date of the *CMRS Third Report and Order*;[408] and (2) such STAs could not be extended, and the non-grandfathered reclassified licensees could only apply for STAs and conditional grants under Part 22 rules.

211. In the *Third Notice* we decided that such reasoning should also be applied to the 220 MHz service, and thus tentatively concluded that non-grandfathered 220 MHz CMRS licensees with STAs should only be allowed to apply for STAs or conditional grants, or extensions to existing STAs or conditional grants, under Part 22 rules. Additionally, we indicated that in granting STAs for 220 MHz licensees we must follow Section 309(f) of the Communications Act, which states that STAs should be granted to CMRS providers only in ``extraordinary circumstances involving particular applications."

(2) Decision

212. AMTA and SMR argue that Phase I licensees should be deemed to have satisfied the extraordinary circumstances criteria for obtaining an STA to the extent that they were unable to modify their licenses due to the freeze that was in existence at the time their comments were filed.[409] As noted in the *Third Notice*, we have issued a number of STAs to Phase I 220 MHz licensees to operate their base stations at unauthorized locations. We conclude that such STAs should be extended until such time as the applications of such licensees to modify their authorization to relocate their base stations are acted upon by the Commission (*see 220 MHz Second Report and Order*). STAs granted to licensees for any other type of unauthorized operation (*e.g.*, to operate at higher power levels than authorized) shall not be renewed. We

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[405] *CMRS Second Report and Order*, 9 FCC Rcd at 1513-14 (paras. 280-284).

[406] *CMRS Third Report and Order*, 9 FCC Rcd at 8166 (para. 409).

[407] *Id.* at 8156 (para. 384).

[408] *Id.*

[409] AMTA Comments at 20; SMR Comments at 17-18.

conclude further that as of August 10, 1996, all 220 MHz licensees meeting the definition of CMRS are required to seek STAs as common carriers, and that we will apply the standard for granting STAs as prescribed in Section 309(f) of the Communications Act -- *i.e.*, that STAs should be granted to CMRS providers only in ``extraordinary circumstances involving particular applications."[410]

d. *Renewal Expectancy*

(1) Proposal

213. In the *CMRS Third Report and Order*, we decided that every Part 90 licensee that is reclassified and treated as a CMRS carrier when its current license term expires would have a 10-year license term and be afforded a renewal expectancy.[411] We also extended our rules for Part 22 services regarding renewal expectancy to all Part 90 CMRS licensees.[412] Specifically, Section 22.940 of our rules provides that a cellular renewal applicant will receive a preference in a comparative renewal proceeding by demonstrating that it: (1) has provided substantial service during the license term; and (2) has complied with applicable Commission rules and policies, and the Act.[413]

214. In the *Third Notice*, we proposed to apply these provisions to all Phase I and Phase II 220 MHz licensees, rather than only to those providing CMRS services as currently required. We advanced this proposal because: (1) we had proposed a 10-year license term for all Phase II 220 MHz licensees regardless of whether the licensee is CMRS or PMRS; and (2) because the new framework for the 220 MHz service proposed in the *Third Notice* significantly alters the service.[414] We thus believed it was appropriate to apply these more stringent renewal standards to non-CMRS as well as CMRS licensees as part of the overall changes to the 220 MHz framework.

(2) Comments; Decision

215. Pagemart and SMR support the Commission's proposal to provide a renewal expectancy for all Phase I and Phase II 220 MHz licensees that would be consistent with renewal

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[410] *CMRS Third Report and Order*, 9 FCC Rcd at 8155 (para. 383).

[411] *Id.* at 8157 (para. 386).

[412] *CMRS Further Notice*, 9 FCC Rcd at 2892 (paras. 139-140).

[413] Section 22.940 of the Commission's Rules, 47 C.F.R. § 22.940. Substantial service is defined in the rule as service that is sound, favorable, and substantially above a level of mediocre service, which would barely warrant renewal. We noted that although Part 22 does not expressly provide for preferences in the case of non-cellular licensees, we have applied to other Part 22 licensees, by case law, renewal expectancy principles that are similar to the standards applied to cellular licensees. *See* *CMRS Further Notice*, 9 FCC Rcd at 2892 n.244 (para. 139); (citing, as an example of the case law, In re Applications of Baker Protective Services, Inc., 59 Rad. Reg. 2d 1141 (1986)).

[414] We indicated, as an example of the changes to the service, our proposal to allow fixed and paging operations on a primary basis for both Phase I and Phase II licensees.

expectancies for other CMRS licensees.[415] We continue to believe that it is appropriate to require all Phase I and Phase II 220 MHz licensees seeking renewal of their authorization to meet the requirements for license renewal similar to those provided in Section 22.940 of our rules. Phase I, non-nationwide licensees will be required to meet these requirements at the end of their 5-year license term; and Phase I nationwide licensees and all Phase II licensees will be required to meet these requirements at the end of their 10-year license term.

E. AUCTION RULES

1. Competitive Bidding Design

a. *Proposal*

216. In the *Competitive Bidding Second Report and Order*, we found that: (l) licenses with strong value interdependencies should be auctioned simultaneously; and (2) multiple round auctions generally yield more efficient allocations of licenses than single round bidding by providing bidders with information regarding other bidders' valuations of licenses, especially where there is substantial uncertainty as to value.[416] We tentatively concluded in the *Third Notice* that simultaneous multiple round auctions would be appropriate for the Phase II licenses of the 220 MHz service, based on our conclusions in the *Competitive Bidding Second Report and Order* and our auction experience.[417] We also sought comment on any alternative bidding designs and their applicability to the 220 MHz service.[418] However, we tentatively concluded that combinatorial bidding, for example, would be unnecessary in most 220 MHz auctions.[419]

b. *Comments*

217. The SMR Advisory Group supports the use of the simultaneous multiple round auction design for all Phase II 220 MHz licenses.[420] AMTA, while disagreeing with the Commission's proposal to auction the noncommercial nationwide 220 MHz licenses, otherwise concurs that a simultaneous multiple round auction is an appropriate competitive bidding design for Phase II 220 MHz licenses.[421] The National Telecommunications and Information Administration (NTIA) urges the Commission to adopt combinatorial bidding for the 220 MHz

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[415] Pagemart Comments at 5, SMR Comments at 17.

[416] *See Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360 (para. 69); *recon*. Second Memorandum Opinion and Order, 9 FCC Rcd 7245 (1994) (*Competitive Bidding Second Memorandum Opinion and Order*).

[417] *Third Notice*, 11 FCC Rcd at 243 (para. 111).

[418] *Id*. at 244 (para. 112).

[419] *Id*. at 244-45 (para. 113).

[420] SMR Comments at 19.

[421] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

auction. NTIA contends that this auction design is more efficient because allowing package bidding will result in the award of licenses at their actual value to bidders who value them the highest, will reduce or eliminate the risk for bidders of winning only a part of the package sought, and will likely generate more revenue.[422]

c. *Decision*

218. Based on the record in this proceeding and our successful experience conducting simultaneous multiple round auctions for other CMRS services (*e.g.*, narrowband and broadband PCS and 900 MHz SMR) and the Multipoint Distribution Service (MDS), we conclude that this is the preferable competitive bidding design for all Phase II 220 MHz service licenses. We have developed a computer system capable of handling approximately 1500 licenses in a simultaneous multiple round auction, and it is therefore administratively feasible to use this auction design to award all 220 MHz licenses simultaneously. For certain bidders, these licenses will be significantly interdependent because of the desirability of aggregation across spectrum blocks and geographic areas. Simultaneous multiple round bidding will generate more information about license values during the course of the auction and provide bidders with more flexibility to pursue back-up strategies than if the licenses were auctioned separately or through sealed bidding. We also expect the value of these licenses to be sufficiently high to warrant simultaneous multiple round bidding. We currently do not have the operational capability of conducting an auction using combinatorial bidding and therefore will not do so to award 220 MHz licenses. However, we are looking into the possibility of developing this capability for future auctions.

2. Bidding Procedures

a. *License Grouping*

(1) Proposal

219. We proposed in the *Third Notice* to auction the nationwide and Regional licenses in one simultaneous multiple round auction. We stated that grouping the nationwide and Regional licenses together would allow bidders to pursue aggregate bidding strategies.[423] We proposed to auction the EA licenses subsequently in one simultaneous multiple round auction.

(2) Comments

220. The SMR Advisory Group, the sole commenter addressing this issue, supports our proposal to auction the nationwide and regional licenses in a single simultaneous multiple round auction, followed by a simultaneous multiple round auction of the EA licenses.[424]

(3) Decision

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[422] NTIA Reply Comments at 5-6.

[423] *Third Notice*, 11 FCC Rcd at 246 (para. 116).

[424] SMR Comments at 19 n.20.

221. After further consideration, we believe that the nationwide, Regional, and EA 220 MHz licenses are all highly interdependent. Grouping interdependent licenses and putting them up for bid at the same time facilitates awarding licenses to bidders who value them most highly by providing bidders with information about the prices of complementary and substitutable licenses during the course of an auction. We therefore plan to hold a single simultaneous multiple round auction for all nationwide, Regional, and EA licenses. We reserve the discretion, however, to auction each of these license groupings (*i.e.*, nationwide, Regional, EA) separately or in different combinations (*e.g.*, nationwide and Regional together) if there are administrative reasons for doing so.

b. ***Bid Increments and Tie Bids***

(1) Proposal

222. A minimum bid increment is the amount or percentage by which a bid must be raised above the previous round's high bid in order to be accepted as a valid bid in the current bidding round.[425] The application of a minimum bid increment speeds the progress of the auction and, along with activity and stopping rules, helps to ensure that the auction closes within a reasonable period of time.[426]

223. In the *Third Notice*, we proposed to start the 220 MHz auctions with relatively large minimum bid increments, and to adjust the increments as bidding activity warrants. We stated that it was important when simultaneous multiple round bidding is used, in establishing the amount of the minimum bid increment, to express such an increment as both a percentage and fixed-dollar amount. This ensures a timely completion of the auction even if bidding begins at a very low dollar amount. Accordingly, we suggested a minimum bid increment of five percent of the high bid in a previous round, or $0.01 per MHz-pop, whichever is greater.[427] We also proposed to retain the discretion to vary the minimum bid increments for individual licenses or groups of licenses at any time before or during the course of the auction, based on the number of bidders, bidding activity, and the aggregate high bid amounts.[428]

(2) Comments

224. Parties commenting on this issue support the establishment of a minimum bid

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[425] *See, e.g., Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 124).

[426] *Id.*

[427] The number of ``MHz-pops," or bidding units, is calculated by multiplying the population of the license service area by the amount of spectrum authorized by the license. Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, Second Order on Reconsideration and Seventh Report and Order, PR Docket No. 89-553, PP Docket No. 93-253, GN Docket No. 93-252, 11 FCC Rcd 2639, 2672 (para. 80 n.159) (1995) (*Competitive Bidding Seventh Report and Order*).

[428] *Third Notice*, 11 FCC Rcd at 247 (para. 118).

increment.[429]

(3) Decision

225. The general guidelines for bid increments will be announced by Public Notice prior to the auction. In the case of a tie bid, we will determine the high bidder by the order in which the bids were received by the Commission.[430]

c. *Stopping Rules*

(1) Proposal

226. In the *Third Notice*, we indicated that, if simultaneous multiple round auctions were used for the Phase II 220 MHz licenses, we preferred using: (1) a simultaneous stopping rule for the nationwide and Regional licenses; and (2) a hybrid stopping rule or a market-by-market closing rule for EA licenses.[431] We proposed to use a simultaneous stopping rule for the EA licenses as well if we determined that a simultaneous stopping rule would be simpler to administer than either a hybrid or a market-by-market stopping rule. Conversely, we proposed using a market-by-market or hybrid stopping rule for the higher value 220 MHz licenses if we concluded that a simultaneous stopping rule is too complex administratively. We proposed announcing by Public Notice before each auction the stopping rule that we would use. In addition, we proposed that if we adopted a simultaneous stopping rule, we would retain the discretion to declare at any point in a simultaneous multiple round auction that the auction would end after one additional round or some other specified number of additional rounds.[432]

(2) Comments

227. The SMR Advisory Group notes that our proposal with regard to stopping rules resembles the procedures used in previous auctions and that it therefore seems appropriate for the 220 MHz auction.[433] No other comments on this issue were received.

(3) Decision

228. We will adopt a simultaneous stopping rule for the Phase II 220 MHz service auction, and elect not to employ a hybrid rule or a market-by-market closing rule. Our experience to date demonstrates that the simultaneous stopping rule balances the interests of administrative efficiency and maximum bidder participation. Under a simultaneous stopping rule, bidding will remain open on all licenses in an auction until bidding stops on every license. We conclude that

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[429] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[430] *See Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 125).

[431] *Third Notice*, 11 FCC Rcd at 248 (para. 120).

[432] *Id*. at 249 (para. 121).

[433] SMR Comments at 20 n.21.

the substitutability between and among licenses in different geographic areas and the importance of preserving bidders' ability to pursue back-up strategies support the use of a simultaneous stopping rule.

229. The Phase II 220 MHz service auction will close after one round passes in which no new valid bids or proactive activity rule waivers (as discussed below) are submitted. We retain the discretion, however, to keep the auction open even if no new acceptable bids and no proactive waivers are submitted in a single round. In the event that we exercise this discretion, the effect will be the same as if a bidder has submitted a proactive waiver. We also retain the discretion to announce market-by-market closings.

230. We further retain the discretion to declare at any point that the auction will end after some specified number of additional rounds. If this option is exercised, bids will be accepted only on licenses where the high bid has increased in the last three rounds. This will deter bidders from continuing to bid on a few low value licenses solely to delay the closing of the auction. It also will enable the Commission to end the auction when it determines that the benefits of terminating the auction and issuing licenses exceed the likely benefits of continuing to allow bidding.

d. ***Activity Rules***

(1) Proposal

231. In the *Third Notice*, we proposed to employ the Milgrom-Wilson activity rule if simultaneous multiple round auctions were used for the Phase II 220 MHz licenses.[434] We proposed a minimum activity level requiring bidders to be active on at least one-third of the MHz-pops for which they are eligible in Stage I, two-thirds of the MHz-pops for which they are eligible in Stage II, and 100 percent of the MHz-pops for which they are eligible in Stage III.[435] Finally, to avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission on a particular day, we proposed permitting each bidder to receive a certain number of waivers, to be announced by Public Notice.[436]

(2) Comments

232. The SMR Advisory Group supports use of the Milgrom-Wilson activity rule for 220 MHz service auctions.[437] AMTA likewise favors the Commission's adoption of the same type of activity rules that have proven successful in other auctions.[438] In order to increase bidder flexibility, however, NTIA proposes that the activity level for Stage III be reduced from 100

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[434] *Third Notice*, 11 FCC Rcd at 249-51 (paras. 122-124).

[435] *Id.* at 250-51 (para. 124).

[436] *Id.* at 251-52 (paras. 125-126).

[437] SMR Comments at 20 n.21.

[438] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

percent to 90 percent.[439]

(3) Decision

233. We will employ the Milgrom-Wilson activity rule in conjunction with the simultaneous stopping rule in a manner similar to that employed in our prior auctions. Unless a waiver is applied, as discussed below, a bidder's eligibility (in terms of bidding units)[440] in the current round is determined by the bidder's activity level and eligibility in the previous round. In the first round, however, eligibility is determined by the bidder's upfront payment.

234. In each round of Stage I, a bidder that wishes to maintain its current eligibility must be active on licenses encompassing at least 60 percent of the activity units for which it currently is eligible. Failure to maintain the requisite activity level will result in a reduction in the amount of activity units upon which a bidder will be eligible to bid in the next round of bidding (unless an activity rule waiver, as defined below, is used). During Stage I, if bidding activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by five thirds (5/3). Eligibility for each applicant in the first round of the auction is determined by the amount of the upfront payment received and the licenses identified in its auction application. In each round of Stage II, a bidder that wishes to maintain its current eligibility in the next round is required to be active on at least 80 percent of the activity units for which it is eligible in the current round. During Stage II, if activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by five fourths (5/4). In each round of Stage III, a bidder that wishes to maintain its current eligibility must be active on licenses encompassing at least 98 percent of the activity units for which it is eligible in the current round. In Stage III, if activity in the current round is below 98 percent of current eligibility, eligibility in the next round will be calculated by multiplying the current round activity by fifty forty-ninths (50/49).

235. We believe that initially establishing required activity at these levels will achieve a proper balance between allowing for bidder flexibility and completing the auction within a reasonable time. We agree with NTIA that requiring a 100 percent level of activity in Stage III may inhibit bidder flexibility and be unduly restrictive. In addition, activity levels of 60, 80 and 98 percent are far easier to administer, both for bidders and for the Commission, than the fractional one-third, two-thirds, and 100 percent activity levels. In addition to easing administrative burdens, the increased activity requirement will require bidders to focus their bidding and will contribute to increasing the pace of the auction.

236. As in prior auctions, we will determine the transition from one stage to the next in the Phase II 220 MHz auction based on a variety of measures of bidder activity including, but not limited to, the auction activity level (*i.e.*, the sum of bidding units of those licenses whose high bid increased in the current round, as a percentage of the total bidding units of all licenses in the auction), the percentage of licenses (measured in terms of bidding units) on which there are new

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[439] NTIA Reply Comments at 13-16.

[440] See note 427, *supra*.

bids, the number of new bids, and the percentage increase in revenue.[441] In no case can the auction revert to an earlier stage. The Wireless Telecommunications Bureau will announce when the auction will move from one stage to the next.

237. To avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission on a particular day, we will provide bidders with five activity rule waivers that may be used in any round during the course of the auction. If a bidder's activity level is below the required activity level, a waiver will be applied automatically. That is, for example, if a bidder fails to submit a bid in a round, and its activity level from any ``standing" high bid(s) (*i.e.*, high bid(s) at the end of the bid withdrawal period in the previous round) falls below its required activity level, the bidder will receive an automatic waiver. A waiver will preserve current eligibility in the next round, but cannot be used to correct an error in the bid amount. An activity rule waiver applies to an entire round of bidding and not to a particular nationwide, Regional, or EA service area.

238. Bidders may override the automatic waiver mechanism when they place a bid, if they wish to reduce their bidding eligibility. If a bidder overrides the automatic waiver mechanism, its eligibility will be reduced permanently (according to the formulas specified above), and it will not be permitted to regain its bidding eligibility from a previous round. If an automatic waiver is applied in a round where there are no valid bids, the auction will end. Bidders will have the option to proactively enter an activity rule waiver during the bid submission period. A proactive waiver, as distinguished from an automatic waiver, is one requested by the bidder. If a bidder submits a proactive waiver in a round in which no other bidding activity occurs, the auction will remain open.

e. *Duration of Bidding Rounds*

(1) Proposal

239. In the *Third Notice*, we proposed that if simultaneous multiple round auctions are used for the Phase II 220 MHz licenses, we would use the same or similar procedures regarding duration of bidding rounds as those used in previous simultaneous multiple round auctions.[442]

(2) Comments

240. No comments were received on this issue.

(3) Decision

241. In simultaneous multiple round auctions, we recognize that bidders may need a significant amount of time to develop their bidding plans and evaluate back-up strategies. The Wireless Telecommunications Bureau will announce the duration of and intervals between bidding rounds, either by Public Notice prior to the auction or by announcement during the auction.

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[441] *See* ``Auction of Broadband Personal Communications Services (D, E and F Blocks)," *Public Notice*, DA 96-1026 (rel. June 25, 1996).

[442] *Third Notice*, 11 FCC Rcd at 252-53 (para. 129).

3. Procedural and Payment Issues

a. *Pre-Auction Application Procedures*

(1) Proposal

242. In the *Third Notice*, we proposed to follow the procedural and payment rules established in the *Competitive Bidding Second Report and Order*, with certain minor modifications designed to address the particular characteristics of the 220 MHz service.[443] In addition, we proposed to adopt general procedural and processing rules based on the rules governing PCS in Part 24 of our rules.[444]

(2) Comments

243. The SMR Advisory Group and AMTA support this approach.[445]

(3) Decision

244. We will generally use the application and payment procedures set forth in Part 1 of our rules, with certain modifications, for the Phase II 220 MHz service. A Public Notice announcing the auction will specify the licenses to be auctioned and the time and place of the auction in the event that mutually exclusive applications are filed. The Public Notice will also specify the method of competitive bidding to be used, applicable bid submission procedures, stopping rules, activity rules, the short-form filing deadline, and the upfront payment amounts.

245. Prior to the auction, the Wireless Telecommunications Bureau will also provide information about how to perform due diligence regarding incumbent licensees for applicants planning to participate in the auction. We encourage all potential bidders to do their own independent investigation regarding existing licensees' operations in each license area on which they intend to bid in order to maximize their success in the auction.

246. We will adopt the same bidding procedures used for MTA-based PCS licenses. Under these procedures, bidders will be able to submit bids from remote locations using special bidding software, or by telephone. We have established a schedule of fees that auction participants will be assessed for certain on-line computer services, bidding software, and Bidder Information Packages.[446] In addition, bidders will be permitted to bid electronically only if they

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[443] *Id.* at 253 (para. 131).

[444] *Id.* at 253 (para. 130).

[445] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[446] *See* Assessment and Collection of Charges for FCC Proprietary Remote Software Packages, On-Line Communications Services Charges, and Bidder's Information Packages in Connection With Auctionable Services, Report and Order, WT Docket No. 95-69, 10 FCC Rcd 10,769 (1995).
Specifically, the Commission has adopted a fee schedule for obtaining access to the Commission's database and remote bidding software packages. The remote access bidding software package is available for

have filed a short-form application electronically. Bidders who file their short-form applications manually may bid only telephonically. When submitting bids telephonically, bidders may utilize the Internet to learn the round-by-round results of the auction. Numerous online services provide Internet access at a reasonable cost. Bidders also may, at negligible cost, use a computerized bulletin board service, accessible by telephone lines, from which auction results can be downloaded to a personal computer.[447] The Commission intends to hold a seminar for prospective bidders to acquaint them with these bidding procedures.

b. *Short-Form Applications*

(1) Proposal

247. In the *Competitive Bidding Second Report and Order*, we determined that we should require only a short-form application prior to the auction.[448] In the *Third Notice*, we proposed to require applicants for nationwide, Regional, and EA 220 MHz licenses to file an initial short-form application (FCC Form 175) in order to qualify for competitive bidding.[449]

(2) Comments

248. All comments received on this issue support our proposal.[450]

(3) Decision

249. Section 309(j)(5) provides that no party may participate in an auction ``unless such bidder submits such information and assurances as the Commission may require to demonstrate that such bidder's application is acceptable for filing."[451] We adopt our proposal to require all applicants for Phase II 220 MHz licenses to submit FCC Form 175 in order to participate in the auction. As we indicated in the *Competitive Bidding Second Report and Order*, if we receive only one application that is acceptable for filing for a particular license, and thus there is no mutual exclusivity, we will issue a Public Notice cancelling the auction for that license and establish a date for the filing of a long-form application.[452]

$175.00. The charge for on-line remote access via a 900 number is $2.30 per minute. Bidders also may bid via telephone for no charge. There is no charge for the first Bidder Information Package requested, and a $16.00 fee for each additional package that is subsequently requested by the same party.

[447] *Id.* at 10,770 (para. 3). *See also MMDS Report and Order*, 10 FCC Rcd at 9640 (para. 107).

[448] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376 (para. 165).

[449] *Third Notice*, 11 FCC Rcd at 254 (para. 132).

[450] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[451] 47 U.S.C. § 309(j)(5).

[452] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376 (para. 165).

c. *Short-Form Application Amendments and Modifications*

(1) Proposal

250. In the *Third Notice*, to encourage maximum bidder participation in 220 MHz auctions, we proposed to provide applicants whose short-form applications are substantially complete, but contain minor errors or defects, the opportunity to correct their applications prior to the auction.[453] We proposed using procedures similar to those employed in previous auctions.[454]

(2) Comments

251. All comments received support this approach.[455]

(3) Decision

252. We will apply the provisions set forth in Part 1 of our rules governing amendments to and modifications of short-form applications to the 220 MHz service.[456] Upon reviewing the short-form applications, we will issue a Public Notice listing all defective applications. Applicants with minor defects in their applications will be given an opportunity to cure them and resubmit a corrected version.

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[453] *Third Notice*, 11 FCC Rcd at 254 (para. 134).

[454] *Id.*; *see also* Section 1.2105(b)(2) of the Commission's Rules, 47 C.F.R. § 1.2105(b)(2) (modification and dismissal of Form 175).

[455] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[456] *See* Section 1.2105 of the Commission's Rules, 47 C.F.R. § 1.2105.

d. *Upfront Payments*

(1) Proposal

253. In the *Third Notice*, we proposed to require 220 MHz auction participants to tender in advance to the Commission an upfront payment of $2,500 or $0.02 per MHz-pop, whichever is greater, for the largest combination of MHz-pops (bidding units) on which they anticipate bidding in any round. This upfront payment would define the upper bound of MHz-pops on which a bidder would be permitted to bid in any round.

(2) Comments

254. All responsive commenters support the Commission's proposed upfront payment formula.[457] Comtech, however, points out that the *Third Notice* is silent on whether all EA or Regional licenses in the same geographic area should command the same MHz-pop upfront payment.[458] In the rules for the 900 MHz SMR service, Comtech states, different upfront payment amounts were required for different channel blocks in the same geographic area depending upon whether the channels were licensed to an incumbent user. Comtech does not believe this is a sound approach. Instead, Comtech asserts, the same upfront payment amount should be required for all licenses for the same geographic area in order to maximize a bidder's flexibility during the auction.[459]

(3) Decision

255. In the *Competitive Bidding Second Report and Order*, we indicated that upfront payments should equal approximately five percent of the expected amounts of winning bids.[460] In general the license values in previous auctions have exceeded expectations. We also believe, based upon defaults occurring in the broadband PCS, IVDS, and MDS auctions, that, to guard against default, there is a need to obtain a higher payment upfront than the one proposed. We delegate to the Wireless Telecommunications Bureau the authority and discretion to determine an appropriate upfront payment for each license being auctioned, taking into account such factors as the population in each geographic license area, and the value of similar spectrum. We expect that the Bureau will follow the guidelines laid out in the *Competitive Bidding Second Report and Order* and establish upfront payments equal to approximately five percent of the expected amounts of winning bids for the various licenses.[461] In no event will the upfront payment for any license be less than $2,500, the minimum suggested in the *Competitive Bidding Second Report and Order* and the *Third Notice*, and the Bureau will retain the flexibility to modify this minimum if experience demonstrates that a higher amount would better deter speculative filings.

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[457] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[458] Comtech Comments at 15-16.

[459] *Id.*

[460] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2379 (para. 177).

[461] *Id*. at 2378-79 (paras. 171-177).

256. Prior to the 220 MHz auction, the Wireless Telecommunications Bureau will issue a Public Notice listing the upfront payment amounts required for the licenses to be auctioned. The number of bidding units determines the amount of upfront payment for each license. A prospective bidder must submit an upfront payment equal to the largest combination of bidding units on which the bidder anticipates being active in any single round. Although a bidder may file applications for every license being auctioned, the total upfront payment submitted by each applicant will determine the combinations on which the applicant will actually be permitted to be active in any single round of bidding. Upfront payments will be due by a date specified by Public Notice, but generally no later than 14 days before the scheduled auction.

e. *Down Payments and Full Payments*

(1) Proposal

257. In the *Third Notice*, we proposed to require the winning bidders for 220 MHz licenses (with the exception of winners that are small businesses) to supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s).[462]

(2) Comments

258. All responsive commenters support this proposal.[463]

(3) Decision

259. We will require all winning bidders, including small businesses and very small businesses,[464] to supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s). If the upfront payment already tendered by a winning bidder, after deducting any bid withdrawal and default payments due, amounts to 20 percent of its winning bids, no additional deposit will be required. If the upfront payment amount on deposit is greater than 20 percent of the winning bid amount after deducting any bid withdrawal and default payments due, the additional monies will be refunded.

260. We will require winning bidders, except small businesses and very small businesses, to submit the required down payment by cashier's check or wire transfer to our lock-box bank within ten business days following release of a Public Notice announcing the close of bidding.[465] All auction winners, except those eligible for an installment payment plan, will be required to make full payment of the balance of their winning bids within ten business days following release of a Public Notice mailed to the successful applicant that the Commission is prepared to award the license. The Commission generally will grant uncontested licenses within ten business days after

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[462] *Third Notice*, 11 FCC Rcd at 256-57 (para. 137).

[463] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[464] See paras. 289-295, *infra*.

[465] See para. 305, *infra*, regarding down payment deadlines for small businesses and very small businesses.

receiving full payment.

f. *Bid Withdrawal, Default, and Disqualification*

(1) Proposal

261. In the *Third Notice*, we proposed to adopt bid withdrawal, default, and disqualification rules for the Phase II 220 MHz service based on the procedures established in our general competitive bidding rules.[466] In the *Competitive Bidding Second Report and Order*, we noted that it is critically important to the success of our competitive bidding process that potential bidders understand that there will be a substantial monetary assessment imposed if they withdraw a high bid, are found not to be qualified to hold licenses, or default on payment of a balance due.[467]

(2) Comments

262. All commenters who addressed this issue agree with this approach.[468]

(3) Decision

263. We will apply the bid withdrawal, default, and disqualification provisions found in Part 1 of our rules to the 220 MHz auction. Any bidder that withdraws a high bid before the Commission declares bidding closed will be required to reimburse the Commission in the amount of the difference between its high bid and the amount of the ``winning bid'' the next time the license is offered, if this subsequent ``winning bid'' is lower than the withdrawn bid.[469] If a license is re-offered by auction, the ``winning bid'' refers to the high bid in the auction in which the license is re-offered. If a license is re-offered in the same auction, the ``winning bid'' refers to the high bid amount made subsequent to the withdrawal in that auction. If a license which is the subject of withdrawal or default is offered to the highest losing bidders in the initial auction, as opposed to being re-auctioned, the ``winning bid'' refers to the bid of the highest bidder who accepts the offer.[470]

264. After bidding closes, we will assess a defaulting auction winner an additional payment of three percent of the subsequent winning bid or three percent of the amount of the

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[466] *Third Notice*, 11 FCC Rcd at 257-59 (paras. 139-140).

[467] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2373-74 (para. 151).

[468] SMR Comments at 20 n.21; AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[469] Section 1.2104(g)(1) of the Commission's Rules, 47 C.F.R. § 1.2104(g)(1).

[470] We recently addressed the issue of how our bid withdrawal provisions apply to bids that are mistakenly placed and withdrawn in a decision involving the 900 MHz SMR and broadband PCS C block auctions. *See* Atlanta Trunking Associates, Inc. and MAP Wireless L.L.C. Request to Waive Bid Withdrawal Payment Provisions, FCC 96-203, Order (released May 3, 1996) (summarized in 61 Fed. Reg. 25,807 (May 23, 1996)), *recon. pending*.

defaulting party's high bid, whichever is less.[471] This additional payment is designed to encourage bidders who wish to withdraw their bids to do so before bidding ceases. In the unlikely event that there is more than one bid withdrawal on the same license, we will hold each withdrawing bidder responsible for the difference between its withdrawn bid and the amount of the winning bid the next time the license is offered for auction.

265. If a bidder has withdrawn a bid or defaulted, but the amount of the default payment cannot yet be determined, the bidder will be required to make a deposit of up to 20 percent of the amount bid on the license. When it becomes possible to calculate and assess the default payment, any excess deposit will be refunded. Upfront payments will be applied to such deposits, and to bid withdrawal and default assessments due, before being applied toward the bidder's down payment on licenses the bidder has won and seeks to acquire.

266. If a default or disqualification involves gross misconduct, misrepresentation or bad faith by an applicant, the Commission may declare the applicant and its principals ineligible to bid in future auctions, and may take any other action that it deems necessary, including institution of proceedings to revoke any existing licenses held by the applicant.

[471] Section 1.2104(g)(2) of the Commission's Rules, 47 C.F.R. § 1.2104(g)(2).

g. *Long-Form Applications*

(1) Proposal

267. In the *Competitive Bidding Second Report and Order*, we established rules that require a winning bidder to submit a long-form application.[472] In the *Third Notice*, we proposed to apply these same procedures to the 220 MHz auction.[473]

(2) Comments

268. No comments were received regarding long-form applications.

(3) Decision

269. We will apply our Part 1 long-form procedures to the 220 MHz auction, as we proposed. A long-form application filed on FCC Form 600 must be filed by a date to be specified by Public Notice, generally within ten business days after the close of bidding. After the winning bidder's down payment and long-form application are received, we will review the application to determine if it is acceptable for filing. Upon acceptance for filing, we will issue a Public Notice announcing this fact, triggering the filing window for petitions to deny. If all petitions to deny are dismissed or denied, the license(s) will be granted to the auction winner.

h. *Petitions to Deny and Limitations on Settlements*

(1) Proposal

270. In the *Third Notice*, we proposed to adopt petition to deny procedures based on former Section 22.30 of our rules, which provided for procedures regarding oppositions to applications.[474] In addition, we proposed to adopt rules similar to former Section 22.943 of our rules, which provided for procedures regarding the withdrawal of applications,[475] to prevent the filing of speculative applications and pleadings designed to extract money from sincere 220 MHz license applicants.[476]

(2) Comments

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[472] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2383 (para. 199). *See also* Sections 1.2107(c) and 1.2107(d) of the Commission's Rules, 47 C.F.R. §§ 1.2107(c) and 1.2107(d).

[473] *Third Notice*, 11 FCC Rcd at 259-60 (para. 142).

[474] This provision was slightly modified and recodified as Section 22.130 of the Commission's Rules. *See Part 22 Rewrite Order*, 9 FCC Rcd 6599 (citing 47 C.F.R. § 22.130). The text of this provision is identical to that of the Part 90 provision 47 C.F.R. § 90.163, which is referenced in the rule adopted herein.

[475] This provision was recently amended and recodified as Section 22.129 of the Commission's Rules. *See Part 22 Rewrite Order*, 9 FCC Rcd at 6598.

[476] *Third Notice*, 11 FCC Rcd at 260 (para. 143).

271. No comments on this issue were received.

(3) Decision

272. We adopt our proposals regarding petitions to deny and limitations on settlements. A party filing a petition to deny against a 220 MHz license application will be required to demonstrate standing and meet all other applicable filing requirements. The restrictions in Section 90.162 (which replaced Section 22.943 for purposes of CMRS)[477] were established to prevent the filing of speculative applications and pleadings (or threats of the same) designed to extract money from 220 MHz license applicants. Thus, we will limit the consideration that an individual or entity is permitted to receive for agreeing to withdraw an application or a petition to deny to the legitimate and prudent expenses of the withdrawing applicant or petitioner.[478]

4. Regulatory Safeguards

a. *Anti-Collusion Rules*

(1) Proposal

273. In the *Competitive Bidding Second Report and Order*, as modified by the *Competitive Bidding Reconsideration Order*, we adopted special rules prohibiting collusive conduct in the context of competitive bidding.[479] In the *Third Notice*, we proposed to apply these rules to the Phase II 220 MHz service.[480] Generally, our rules limit parties who have applied for licenses in the same geographic license areas from agreeing to bidding strategies that divide the market according to their strategic interests and/or disadvantage other bidders.

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[477] *See also* Section 1.53 of the Commission's Rules, 47 C.F.R. § 1.53.

[478] *But see* Section 1.2105(c) of the Commission's Rules, 47 C.F.R. § 1.2105(c).

[479] *Competitive Bidding Second Report and Order* at 2386-88 (paras. 221-26); Implementation of Section 309(j) of the Communications Act--Competitive Bidding, Second Memorandum Opinion and Order, PP Docket No. 93-253, 9 FCC Rcd 7245, 7253-54 (paras. 48-53) (1994); Erratum, Mimeo No. 50228 (released Oct. 19, 1994).

[480] *Third Notice*, 11 FCC Rcd at 262-63 (paras. 147-149).

(2) Comments

274. The SMR Advisory Group supports our proposed anti-collusion rules for the Phase II 220 MHz service.[481] No other commenters addressed this issue.

(3) Decision

275. We will require Phase II 220 MHz service applicants to comply with the reporting requirements and rules prohibiting collusion embodied in Sections 1.2105 and 1.2107 of our rules.[482] We also note that even where the applicant discloses parties with whom it has reached an agreement on the short-form application, thereby permitting discussions with those parties, the applicant nevertheless is subject to existing antitrust laws.[483] Moreover, where specific instances of collusion in the competitive bidding process are alleged during the petition to deny process, we may conduct an investigation or refer such complaints to the United States Department of Justice for investigation. Bidders who are found to have violated the antitrust laws, in addition to any penalties they incur under the antitrust laws, or who are found to have violated the Commission's rules in connection with their participation in the auction process, may be subject to a variety of sanctions, including forfeiture of their down payment or their full bid amount, revocation of their license(s), and possible prohibition from participating in future auctions.[484]

b. ***Transfer Disclosure Requirements***

(1) Proposal

276. In Section 309(j)(4)(E) of the Communications Act, Congress directed the Commission to ``require such transfer disclosures and anti-trafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits."[485] In the *Competitive Bidding Second Report and Order*, the Commission adopted safeguards designed to ensure that the requirements of Section 309(j)(4)(E) are satisfied, including a transfer disclosure requirement for licenses obtained through the competitive bidding process.[486] In the *Third Notice*, we proposed to apply the transfer disclosure requirements contained in Section 1.2111(a) of our rules to all Phase II 220 MHz licenses obtained through the competitive bidding process.[487]

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[481] SMR Comments at 20 n.21.

[482] *See* Sections 1.2105(c) and 1.2107 of the Commission's Rules, 47 C.F.R. §§ 1.2105(c), 1.2107.

[483] *Competitive Bidding Fourth Memorandum Opinion and Order*, 9 FCC Rcd at 6869 n.134 (para. 59).

[484] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388 (para. 226).

[485] 47 U.S.C. § 309(j)(4)(E).

[486] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2384-88, 2394-95 (paras. 210-226, 258-265). *See also* Section 1.2111(a) of the Commission's Rules, 47 C.F.R. § 1.2111(a).

[487] *Third Notice*, 11 FCC Rcd at 260-61 (para. 145).

(2) Comments

277. The SMR Advisory Group supports our proposed transfer disclosure provisions.[488] No other commenters addressed this issue.

(3) Decision

278. We will apply Section 1.2111(a) to all Phase II 220 MHz licenses obtained through the competitive bidding process. We have also adopted specific rules that will apply solely to small business licensees, as discussed in subsequent sections. We will give particular scrutiny to auction winners who have not yet begun commercial service and who seek approval for a transfer of control or assignment of their licenses within three years after the initial license grant, so that we may determine if any unforeseen problems relating to unjust enrichment have occurred.

5. Treatment of Designated Entities

a. *Overview and Objectives*

279. Section 309(j) of the Communications Act provides that, in developing competitive bidding procedures, the Commission shall, *inter alia*, ``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."[489] Small businesses, rural telephone companies and businesses owned by minorities and/or women are collectively referred to as ``designated entities."[490] Section 309(j)(4)(A) provides that in order to promote such objectives, the Commission shall ``consider alternative payment schedules and methods of calculation, including lump sums or guaranteed installment payments, with or without royalty payments, or other schedules or methods . . . and combinations of such schedules and methods."[491] Section 309(j)(4)(D) also requires the Commission to ``ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services."[492]

280. To meet the statutory objective of providing opportunities for designated entities, we have employed a wide range of special provisions and eligibility criteria in other spectrum-

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[488] SMR Comments at 20 n.21.

[489] 47 U.S.C. § 309(j)(3)(B).

[490] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388 (para. 227).

[491] 47 U.S.C. § 309(j)(4)(A).

[492] *Id.* at § 309(j)(4)(D).

based services.[493] These measures have been designed to help designated entities overcome barriers to accessing capital and increase the likelihood that designated entities that win licenses in the auctions become strong competitors in the provision of wireless services. In the *Third Notice*, we sought comment on the type of designated entity provisions that should be incorporated into our competitive bidding procedures for the Phase II 220 MHz service.[494]

b. *Small Businesses*

(1) Proposal

281. In the *Third Notice*, we asked commenters to address: (1) the capital requirements of the 220 MHz service in comparison with other wireless services; (2) the degree to which designated entities currently provide 220 MHz service; and (3) whether designated entities and small businesses in particular face barriers to entry into the 220 MHz service based on lack of access to capital or other factors.[495] We tentatively concluded that it was appropriate to establish special provisions in our 220 MHz rules to promote and facilitate participation by small businesses.[496]

(2) Comments

282. AMTA indicates its support for the eligibility criteria proposed as part of our designated entity provisions.[497] In addition, AMTA states that our proposed bidding credits are reasonable in light of our desire to encourage small business participation in the 220 MHz

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[493] For instance, we determined that minority- and women-owned businesses in the nationwide narrowband PCS auction would receive a 25 percent bidding credit on certain channels. *Competitive Bidding Third Report and Order*, 9 FCC Rcd at 2970 (para. 72). In the regional narrowband PCS auction women- and minority-owned businesses were eligible for a 40 percent bidding credit on certain channels and small businesses were eligible for installment payments on all channels. *Id*. at 2978-79 (para. 87); Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Third Memorandum Opinion and Order and Further Notice of Proposed Rule Making, 10 FCC Rcd 175, 201 (para. 58) (1994) (*Competitive Bidding Third Memorandum Opinion and Order and Further Notice*). After the Supreme Court's decision in Adarand Constructors, Inc. v. Peña, 115 S.Ct. 2097 (1995), discussed at para. 284, *infra*, we amended our rules for various auctions, making them race- and gender-neutral and extending certain special provisions to small businesses. We took this approach to the broadband PCS C block and F block rules, for example. Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Sixth Report and Order, 11 FCC Rcd 136, 161 (para. 47) (1995) (*Competitive Bidding Sixth Report and Order)*; 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, 7834 (para. 18) (1996) (*D, E and F Block Report and Order*). We believe that minority- and women-owned entities will benefit from these provisions.

[494] *Third Notice*, 11 FCC Rcd at 267 (para. 159).

[495] *Id.* at 266-67 (paras. 158-59).

[496] *Id.* at 267 (para. 160).

[497] AMTA Comments at 21-22.

service.[498]

(3) Decision

283. Congress specifically cited the needs of small businesses in enacting Section 309(j), directing the Commission to promote economic opportunities for small businesses. The House Report states that the statutory provisions related to installment payments were intended to promote economic opportunity by ensuring that competitive bidding does not inadvertently favor incumbents with ``deep pockets" over new companies or start-ups.[499] While a number of small businesses are successfully participating in the 220 MHz industry, we conclude that it is appropriate to establish special provisions in our 220 MHz service rules to facilitate competitive bidding by small businesses. Construction of a 220 MHz system may require a significant amount of capital. Moreover, Congress made specific findings with regard to access to capital in the Small Business Credit and Business Opportunity Enhancement Act of 1992, finding that ``small business concerns which represent higher degrees of risk in financial markets than do large businesses, are experiencing increased difficulties in obtaining credit."[500] For these reasons, we believe that small businesses applying for 220 MHz licenses should be entitled to some type of bidding credit and should be allowed to pay their bids in installments.

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[498] *Id.*

[499] *See* H.R. Rep. No. 111, 103d Cong., First Sess. (1993) at 255.

[500] Small Business Credit and Business Opportunity Enhancement Act of 1992, Pub. L. No. 102-366, § 331(a)(3), 106 Stat. 1007.

c. *Minority- and Women-Owned Businesses*

(1) Proposal

284. In *Adarand Constructors, Inc. v. Peña,*[501] the Supreme Court held that ``all racial classifications . . . must be analyzed by a reviewing court under strict scrutiny."[502] As a result of the *Adarand* decision, any federal program that makes distinctions on the basis of race must serve a compelling governmental interest and must be narrowly tailored to serve that interest in order to pass constitutional muster.[503] Gender-based programs must satisfy intermediate scrutiny.[504] Under this standard, there must be an ``exceedingly persuasive justification" for a gender-based government provision and such a provision is constitutional if it serves an important governmental objective and is substantially related to achievement of that objective.[505] In the *Third Notice*, we emphasized that we had not concluded that race- and gender-based measures are unconstitutional or otherwise inappropriate for spectrum auctions we will hold in the future. At a minimum, however, we stated that we must build a thorough factual record concerning the participation of minorities and women in spectrum-based services to support race- and gender-based measures. We expressed our belief that a sufficient factual record does not exist with respect to spectrum-based services generally or the 220 MHz service specifically to sustain such measures under strict scrutiny.[506] We also indicated our uncertainty regarding the sufficiency of the record to sustain gender-based preferences under intermediate scrutiny.[507] In light of these considerations, we proposed to limit designated entity provisions for the 220 MHz service to small businesses.[508]

285. We requested comment, however, on the possibility that in addition to small business provisions, separate provisions for women- and minority-owned entities should be adopted for the 220 MHz service. We asked commenters to discuss whether the capital requirements of the 220 MHz service pose a barrier to entry by minorities and women and whether assisting women and minorities to overcome such a barrier, if it exists, would constitute a compelling government interest. In particular, we sought comment on the actual cost of acquisition, construction and operation of 220 MHz systems, and the proportion of existing 220 MHz businesses that are owned by women or minorities. We also sought comment on the analytical framework for establishing a history of past discrimination in the 220 MHz service industry and urged parties to submit evidence (statistical, documentary, anecdotal or otherwise) about patterns or cases of

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[501] 115 S. Ct. 2097 (1995).

[502] *Id*. at 2113.

[503] *Id.*

[504] United States v. Virginia, 116 S. Ct. 2263 (1996).

[505] *Id*. at 2275. *See* also J.E.B. v. Alabama ex. rel T.B., 511 U.S. 127 (1994); Mississippi Univ. for Women v. Hogan, 458 U.S. 718 (1982).

[506] *Third Notice*, 11 FCC Rcd at 266 (para. 158).

[507] *Id*.

[508] *Id.*

discrimination in this and related communications services. We sought comment on whether, assuming that a compelling governmental interest is established, separate provisions for women and minorities are necessary to further this interest and whether such provisions can be narrowly tailored to satisfy the standard of judicial review.[509]

(2) Comments

286. AMTA agrees with the Commission's determination that a sufficient record has not been developed to indicate that race-based measures would be sustained under the strict scrutiny standard adopted by the Supreme Court in *Adarand*.[510] AMTA is not aware of any compelling governmental interest that would be served by increased participation by women or minorities in the provision of 220 MHz service.[511] AMTA also is unable to provide the Commission with any particular evidence, other than general societal trends, linking past discrimination with either 220 MHz service specifically or communications services in general.[512] Comtech's comments generally concur with AMTA's position.[513] Comtech believes that the best way to promote opportunities for women and minorities is to make special provisions, such as bidding credits, reduced down payments, and installment payments, available to small businesses on all 220 MHz channel blocks.[514]

(3) Decision

287. In the Phase II 220 MHz service, as in other auctionable services, we are committed to meeting the statutory objectives of promoting economic opportunity and competition, of avoiding excessive concentrations of licenses, and of ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including businesses owned by members of minority groups and women. Commenters did not cite any evidence of specific discrimination for purposes of creating a record sufficient to support special provisions for minorities under the strict scrutiny standard. *Adarand* makes clear that only a record of discrimination against a particular racial group would support remedial measures designed to help that group. A record of discrimination against minorities in general may not be sufficient.[515] We are also concerned that our record would not support gender-based provisions under intermediate

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[509] *Id.* at 267 (para. 159).

[510] AMTA Comments at 21. *See also* U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[511] AMTA Comments at 21.

[512] *Id.* at 21-22.

[513] Comtech Comments at 16.

[514] *Id.*

[515] *Adarand*, 115 S. Ct. at 2113.

scrutiny.[516] Balancing our obligation to provide opportunities for women- and minority-owned businesses to participate in spectrum-based services against our statutory duties to facilitate the rapid delivery of new services to the American consumer and promote efficient use of the spectrum, we conclude that we should not delay the Phase II 220 MHz service auction for the amount of time it would take to adduce sufficient evidence to support race- and gender-based provisions. Moreover, we believe that most minority- and women-owned businesses will be able to take advantage of the specific provisions that we adopt for small businesses, as discussed *infra*.[517]

288. We note, too, that we have initiated a separate inquiry to gather information regarding barriers to entry faced by minority- and women-owned firms as well as small businesses.[518] We will also continue to track the rate of participation in our auctions by minority- and women-owned firms and evaluate this information with other data gathered with the goal of developing a record to support race- and gender-based provisions that will satisfy judicial scrutiny. If a sufficient record can be adduced, we will consider race- and gender-based provisions for future auctions. Finally, we are looking for other ways to reduce barriers to entry for women- and minority-owned businesses, such as extending partitioning and disaggregation of licenses to entities that do not currently qualify, an adjustment to our rules that may be helpful to small businesses generally.[519]

d. *Small Business Definition*

(1) Proposal

289. In the *Third Notice*, we sought comment regarding how to define small business for purposes of eligibility for bidding credits, installment payments, and reduced down payments.[520] For companies wanting to bid on nationwide and Regional licenses, we proposed to define small businesses as those entities with less than $15 million in average annual gross revenues for the preceding three years. For companies bidding for EA licenses, we proposed to define small businesses as those entities with less than $6 million in average annual gross revenues for the preceding three years.[521] We sought comment on whether different definitions of small business should be used for nationwide, Regional and EA licenses. We also sought comment regarding the treatment of gross revenues of affiliates and certain investors as it may affect the calculation of a

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[516] Telephone Electronics Corp. v. FCC, No. 95-1015, (D.C. Cir. Mar. 15, 1995) (order granting stay); United States v. Virginia, 116 S. Ct. at 2275.

[517] See paras. 298, 301, *infra*.

[518] Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses, Notice of Inquiry, GN Docket No. 96-113, 11 FCC Rcd 6280 (1996).

[519] See paras. 306-311, *infra*.

[520] *Third Notice*, 11 FCC Rcd at 271 (para. 170).

[521] *Id.*

small business's gross revenues and income.[522]

(2) Comments

290. AMTA and the SMR Advisory Group support our proposed two-tiered eligibility criteria for small businesses.[523] Metricom contends that because of the high costs associated with the build-out and operation of a Regional or nationwide system, the Commission should define small business for the Phase II 220 MHz nationwide and Regional licenses as an entity with $25 million or less in average gross revenues for the preceding three years, rather than $15 million or less.[524] Metricom also asserts that the Commission should modify its proposed attribution rules for small businesses so that small, publicly traded companies with widely dispersed voting power would not be ineligible.[525] Comtech believes that for purposes of determining whether an entity qualifies as a small business, revenues and assets of investors holding more than 25 percent of an applicant's voting stock and revenues and assets of all affiliates should be attributable to the applicant.[526]

(3) Decision

291. While the nationwide and Regional Phase II 220 MHz licenses will have higher build-out and operational costs than will the EA licenses, we believe, based upon our prior auction experience -- particularly in the 900 MHz SMR auction -- that it is likely that bidders will attempt to aggregate licenses across regions or EAs to establish their markets. Thus, for example, bidders may elect to aggregate EAs to create a regional market, rather than bid for the Regional license itself. In order to ensure the meaningful participation of small business entities in the auction, therefore, we have decided to adopt a two-tiered definition of small business with thresholds applicable across all three categories of license. This approach will give qualifying small businesses flexibility to bid for a Regional license or, on the other hand, elect to bid for several EAs, without having to choose which type of license to bid for prior to the start of the auction. For purposes of bidding on the nationwide, Regional, and EA licenses, therefore, we will define: (1) a very small business as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the three preceding years; and (2) a small business as an entity that, together with affiliates and controlling principals, has average gross revenues that are not more than $15 million for the three preceding years. Bidding credits will be determined, as discussed *infra*, based upon this two-tiered approach.

292. We disagree with Metricom that we should increase the gross revenues threshold amount to $25 million, because, based upon our experience in the 900 MHz SMR auction, such an increase would be far too inclusive. In the 900 MHz SMR auction, we established small

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[522] *Id.* at 272 (para. 173).

[523] AMTA Comments at 22; SMR Comments at 20.

[524] Metricom Comments at 13-14.

[525] *Id.* at 11.

[526] Comtech Comments at 18.

business definitions of $15 million and $3 million. Of the 128 applicants to participate in the auction, 101 qualified for the small business bidding credits. We believe the cost of building out a 220 MHz system most closely resembles the cost of a 900 MHz SMR system, that our experience in conducting the 900 MHz SMR auction indicates that our definitions of eligible small businesses were appropriate, and that it would substantially dilute the value of the small business preferences to increase the size of small businesses eligible for special bidding provisions. Therefore, we decline to adopt the Metricom proposal. We also conclude that, because the build-out costs of 220 MHz systems are similar to the build-out costs of 900 MHz SMR systems, it is appropriate to establish a definition of ``very small business" for the 220 MHz service that is consistent with the definition we adopted for the 900 MHz SMR service. We therefore decline to adopt a definition based on the $6 million we originally proposed to use for entities bidding on EA licenses.

293. For purposes of our Phase II 220 MHz small business definition, we will consider the gross revenues of the small business applicant, its affiliates, and certain investors in the applicant. Specifically, for purposes of determining small business status, we will attribute the gross revenues of all controlling principals in the small business applicant as well as the gross revenues of affiliates of the applicant. This is a much simpler approach than we utilized in broadband PCS since it does not require a ``control group."[527] We believe this simpler approach is appropriate because we do not anticipate that 220 MHz licensees will have the same sort of capital requirements as broadband PCS licensees. We also choose not to impose specific equity requirements on the controlling principals of entities that meet our small business definition. We will still require, however, that in order for an applicant to qualify as a small business, qualifying small business principals must maintain ``control" of the applicant, including both *de facto* and *de jure* control. For this purpose, we will borrow from certain SBA rules that are used to determine when a firm should be deemed an affiliate of a small business.[528] Typically, *de jure* control is evidenced by ownership of 50.1 percent of an entity's voting stock. *De facto* control is determined on a case-by-case basis. An entity must demonstrate at least the following indicia of control to establish that it retains *de facto* control of the applicant: (1) the entity constitutes or appoints more than 50 percent of the board of directors or partnership management committee; (2) the entity has authority to appoint, promote, demote and fire senior executives that control the day-to-day activities of the licensees; and (3) the entity plays an integral role in all major management decisions.[529] Moreover, we caution that while we are not imposing specific equity requirements on small business principals, the absence of significant equity could raise questions about whether the applicant qualifies as a *bona fide* small business.

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[527] A control group is defined as an entity, or a group of individuals or entities, that possesses *de jure* and *de facto* control of an applicant or licensee, such that (1) the entity and/or its members own unconditionally at least 50.1 percent of the total voting interests of a corporation; (2) the entity and/or its members receive at least 50.1 percent of the annual distribution of any dividends paid on the voting stock of a corporation; (3) in the event of dissolution or liquidation of a corporation, the entity and/or its members are entitled to receive 100 percent of the value of each share of stock in its possession and a percentage of the retained earnings of the concern that is equivalent to the amount of equity held in the corporation; and (4) the entity and/or its members have the right to receive dividends, profits, and regular and liquidating distributions from the business in proportion to its interest in the total equity of the applicant or licensee. Section 24.720(j) of the Commission's Rules, 47 C.F.R. § 24.720(j).

[528] *See* 13 C.F.R. § 121.401.

[529] *See Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 447 (para. 80).

294. As we did in broadband PCS, we will permit eligible small businesses to form consortia and not aggregate their gross revenues.[530] Additionally, a small corporation that has dispersed voting stock ownership and no controlling affiliates will not be required to aggregate with its own revenues the revenues of each shareholder for purposes of small business status.[531] Thus, we clarify that such an applicant may qualify -- even in the absence of identifiable control being held by particular investors.

295. We note also that applicants and licensees claiming eligibility as a small business or consortium of small businesses are subject to audits by the Commission. Selection for audit may be random, on information, or on the basis of other factors. Consent to such audit is part of the certification included in the short-form application (FCC Form 175). Such consent includes consent to the audit of the applicant's or licensee's books, documents, and other material, including accounting procedures and practices, regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are and remain accurate. Such consent also includes inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business or keeping records regarding licensed Phase II 220 MHz service, and will also include consent to the interview of principals, employees, customers, and suppliers of the applicant or licensee.

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[530] *See* Section 24.720(b) of the Commission's Rules, 47 C.F.R. § 24.720(b).

[531] *See Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 444-45 (para. 74); Section 24.720(m) of the Commission's Rules, 24 C.F.R. § 24.720(m) (defining ``publicly traded corporation with widely dispersed voting power'').

e. *Bidding Credits*

(1) Proposal

296. In the *Third Notice*, we proposed an approach that would be a hybrid of the bidding credit options offered to small businesses in the 900 MHz SMR auction and the nationwide narrowband PCS auction.[532] In order to ensure that small businesses have a realistic opportunity to acquire Phase II 220 MHz nationwide and Regional licenses, we proposed a 40 percent bidding credit for all qualified designated entities. For Phase II 220 MHz nationwide licenses, we proposed, *inter alia*, to offer this bidding credit on only one of the available channel blocks. For Phase II 220 MHz Regional licenses, we proposed to offer the bidding credit on all available channel blocks. Because we believed that the Phase II 220 MHz EA licenses are similar to the licenses offered in the 900 MHz SMR service, we proposed offering the same 10 percent bidding credit to qualified small businesses in the Phase II 220 MHz EA auction as we did in the 900 MHz SMR auction.[533]

(2) Comments

297. The SMR Advisory Group supports our proposed bidding credits.[534] Comtech supports our proposal to provide a 40 percent bidding credit on all Phase II 220 MHz Regional license blocks, but asserts that the 40 percent bidding credit should also be available for all nationwide blocks.[535]

(3) Decision

298. We believe that small businesses are in the best position to decide which blocks of licenses to bid on. As we stated *supra*, based upon our experience in previous auctions, it is very likely that bidders will attempt to aggregate Regional and EA licenses in the development of their bidding strategies, particularly if these licenses are auctioned together. Thus, we will establish bidding credits consistent with our two-tiered definition of small business that will apply to all three license groups. For very small businesses that, together with affiliates and controlling principals, have average gross revenues that are not more than $3 million for the three preceding years, we will give a 25 percent bidding credit, applicable for all three categories of licenses. Likewise, we will give small businesses that, together with affiliates and controlling principals, have average gross revenues that are not more than $15 million for the three preceding years, a bidding credit of ten percent, available for all three categories of Phase II 220 MHz licenses. While the 25 percent bidding credit is less than originally proposed for the nationwide and Regional licenses, we believe it is appropriate since we are now going to offer bidding credits generally for all channel blocks. We have also had favorable results in previous auctions with

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[532] *Third Notice*, 11 FCC Rcd at 268-69 (para. 162).

[533] *Id*. at 268-69 (paras. 161-165).

[534] SMR at 21. *See also* AMTA Comments at 22 (supporting bidding credits for regional and EA licenses); U.S. MobilComm Comments at 6; Roamer Comments at 1-2; Incom Comments at 2.

[535] Comtech Comments at 17.

bidding credits at this level or lower.[536]

f. *Installment Payments, Upfront Payments, and Down Payments*

(1) Proposal

299. In the *Third Notice*, we proposed the use of installment payments and reduced down payments for all small businesses bidding for any of the Phase II 220 MHz nationwide, Regional and EA licenses.[537] We also tentatively concluded that reduced upfront payments for small businesses would be unnecessary.[538]

(2) Comments

300. The SMR Advisory Group supports the use of installment payments and a reduced down payment to assist small businesses in participating in the Phase II 220 MHz auctions.[539]

(3) Decision

301. We will make installment payment plans available to small businesses that are winners in the 220 MHz auction. We recognize that small businesses, including those owned by women and minorities, face difficulties not encountered by other firms.[540] As we have also noted previously, allowing installment payments reduces the amount of private financing needed by prospective small business licensees and therefore mitigates the effect of limited access to capital by small businesses.[541] Licensees who qualify as small businesses or very small businesses in 220 MHz auctions will be entitled to pay their winning bid amount in quarterly installments over the term of the license with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. The rate for ten-year U.S. Treasury obligations will be determined by taking the coupon rate of interest on the ten-year U.S. Treasury notes most recently auctioned by the Treasury Department before licenses are conditionally granted. These licensees will be able to make interest-only payments for the first two years of the license term. Timely payment of all installments will be a condition of the license grant, and failure to make such timely payments will be grounds for revocation of the license.

302. We decline to adopt a second installment payment plan with a longer interest-only period for very small businesses with average gross revenues of not more than $3 million. We

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[536] *See, e.g.*, *Competitive Bidding Sixth Report and Order*, 11 FCC Rcd 136, 161 (para. 47) (1995) (25 percent for broadband PCS); *Competitive Bidding Seventh Report and Order*, 11 FCC Rcd at 268-69 (paras. 161-65) (15 and 10 percent for 900 MHz SMR).

[537] *Third Notice*, 11 FCC Rcd at 270-71 (paras. 166-169).

[538] *Id.* at 275 (para. 180).

[539] SMR Comments at 20.

[540] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2389 (para. 230).

[541] *Id*. at 2389 (paras. 231-232).

believe that the two-year interest-only period in the single plan we adopt here provides all small businesses with the appropriate level of financing to overcome difficulties in attracting capital.[542] Given that we are making additional financial assistance available to very small businesses in the form of a 25 percent bidding credit, we do not think a longer interest-only period is justified.

303. We also conclude that we should provide for late payment fees in connection with our installment payment plan for Phase II 220 MHz licensees. We stated in the *Third Notice* that timely payment of all installments would be a condition of the award of a license.[543] Therefore, when licensees are more than fifteen days late in their scheduled installment payments, we will charge a late payment fee equal to five percent of the amount of the past due payment. For example, if a $50,000 payment is due on June 1, then on June 16, $2,500 is due in addition to the payment. As we explained in adopting a late payment fee provision for broadband PCS F block auction winners, without such a fee licensees may not have adequate financial incentives to make installment payments on time and may attempt to maximize their cash flow at the government's expense by paying late. We note, too, that enhancing the fiscal accountability of entities receiving installment payment benefits is consistent with the purpose of the recently enacted Debt Collection Improvement Act of 1996. The five percent payment we adopt here is an approximation of late payment fees applied in typical commercial lending transactions. Payments will be applied in the following order: late charges, interest charges, and principal payments.

304. Our upfront payment rules are intended to deter speculation and ensure participation by sincere bidders only. We believe that substantial upfront payments are necessary for both large and small businesses to achieve these goals, and that it would be inappropriate to adopt reduced upfront payment provisions for small businesses participating in the Phase II 220 MHz service auction. We therefore decline to do so.

305. We also believe that small businesses should be required to pay a down payment of 20 percent, as we have required in our broadband PCS D, E, and F block auction. We believe that such a requirement is consistent with ensuring that winning bidders have the financial capability of building out their systems and will provide us with stronger assurance against defaults than a ten percent down payment. Increasing the amount of the bidder's funds at risk in the event of default discourages insincere bidding and therefore increases the likelihood that licenses are awarded to parties who are best able to serve the public. We also believe that a 20 percent down payment should cover the required payments in the unlikely event of default. Thus, small businesses will be required to bring their deposit up to ten percent of their winning bid within ten business days of the close of the auction. Prior to licensing, they will be required to pay an additional ten percent. Specific procedures for payment will be provided in a Public Notice.

g. *Partitioning*

(1) Proposal

306. As noted above, Congress directed the Commission to ensure that rural telephone

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[542] *See D, E and F Block Report and Order*, 11 FCC Rcd at 7845 (para. 44).

[543] *Third Notice*, 11 FCC Rcd at 271 (para. 168).

companies have the opportunity to participate in spectrum-based services.[544] In the *Third Notice*, we proposed a partitioning scheme for rural telephone companies similar to the one adopted for broadband PCS.[545] We also proposed that rural telephone companies be defined, as in the *Competitive Bidding Fifth Report and Order*, as local exchange carriers having 100,000 or fewer access lines, including all affiliates.[546] In addition, we sought comment on whether the Phase II 220 MHz service would benefit from the broader availability of geographic partitioning and channel disaggregation.[547]

(2) Comments

307. No commenters addressed these issues.

(3) Decision

308. Upon further analysis of the partitioning issues raised in the *Third Notice*, we have concluded that we will permit any holder of an EA, Regional or nationwide Phase II 220 MHz license to partition portions of its authorization and enter into contracts with eligible parties, allowing such parties to file long-form applications for the usable channels within the partitioned area.[548] In a Fifth Notice of Proposed Rulemaking, we will propose rules implementing the partitioning decision we adopt in this Order.

309. We have decided to take this action with respect to partitioning because of our conclusion that allowing holders of EA, Regional and nationwide Phase II 220 MHz licenses to partition their geographic service areas will facilitate the provision of services in small markets and rural areas. Partitioning will also furnish providers of Phase II 220 MHz service with operational flexibility that will serve to promote the most efficient use of the spectrum and encourage participation by a wide variety of service providers.

310. However, we will not, at this time, authorize spectrum disaggregation for the Phase II 220 MHz service. Instead, we will seek information regarding the technical feasibility and appropriateness of spectrum disaggregation for the Phase II 220 MHz service in the Fifth Notice of Proposed Rulemaking. We note, however, that a disaggregation mechanism could prove to be a useful vehicle for introducing a greater degree of flexibility with respect to the utilization of non-contiguous channels by Phase II 220 MHz licensees.

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[544] *See* 47 U.S.C. § 309(j)(4)(D).

[545] *Third Notice*, 11 FCC Rcd at 273-74 (para. 176) (citing *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5597-99 (para. 151)).

[546] *Id.*

[547] *Id.* at 274 (para. 177).

[548] We have previously adopted expanded partitioning rights for broadband PCS. 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, FCC 96-474 (released Dec. 20, 1996) (*Partitioning Report and Order*).

311. Providers of 220 MHz service will be permitted to acquire partitioned licenses in either of two ways: (1) by forming bidding consortia to participate in auctions, and then partitioning the licenses won among consortium members; and (2) by acquiring partitioned licenses from other licensees through private negotiation and agreement either before or after the auction. Each member of a consortium will be required to file a long-form application, following the auction, for its respective mutually agreed-upon geographic area. With regard to partitioning by small businesses, we seek comment in the Fifth Notice of Proposed Rulemaking regarding the treatment of bidding credits and installment payments. We also seek comment on other issues related to partitioning and disaggregation, such as whether to permit partitioning based on any license area defined by the parties.[549] In the event we receive applications requesting Commission consent to partitioning transfers prior to the adoption of rules based on the Fifth Notice of Proposed Rulemaking, action on such applications will be deferred.

h. *Transfer Restrictions and Unjust Enrichment Provisions*

(1) Proposal

312. The Commission's unjust enrichment provisions are integral to the success of the special provisions for designated entities in the various auctionable services. In the *Competitive Bidding Second Report and Order*, we adopted unjust enrichment provisions applicable specifically to designated entities. We established these provisions to deter speculation and participation in the licensing process by those who do not intend to offer service to the public, or who intend to use our provisions to obtain a license at a lower cost than they otherwise would have to pay, and later to sell it for a profit.[550]

313. In the *Third Notice*, we sought comment regarding the appropriate approach to preventing unjust enrichment in the Phase II 220 MHz service. We asked whether a holding period of three years after the license grant -- in which a licensee would be prohibited from voluntarily transferring or assigning its license to any other entity -- should be imposed on small businesses in the Phase II 220 MHz service. We also asked whether, in the alternative, we should allow small businesses to transfer or assign their licenses without restriction but require the reimbursement of bidding credits and payment of all principal due upon transfer to an ineligible entity.[551]

(2) Comments

314. No commenters addressed this issue.

(3) Decision

315. To ensure that large businesses do not become the unintended beneficiaries of measures meant for smaller firms, we will adopt unjust enrichment provisions similar to those

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[549] See, for example, the discussion at para. 325, *infra*.

[550] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2394 (para. 259); Section 1.2111 of the Commission's Rules, 47 C.F.R. § 1.2111.

[551] *Third Notice*, 11 FCC Rcd at 275 (para. 179).

adopted for narrowband PCS and the 900 MHz SMR service. Licensees seeking to transfer their licenses to entities which do not qualify as small businesses (or very small businesses seeking to transfer their licenses to small businesses or large companies), as a condition of approval of the transfer, must remit to the government a payment equal to a portion of the total value of the benefit conferred by the government. Thus, for example, a small business that received a bidding credit seeking to transfer or assign a license to an entity that does not qualify as a small business will be required to reimburse the government for the amount of the bidding credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before the transfer will be permitted. Similarly, a very small business that received a bidding credit seeking to transfer or assign a license to a small business that qualified for a lesser bidding credit will be required to reimburse the government for the difference between the amount of its bidding credit and the lesser credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before the transfer will be permitted. The amount of this payment will be reduced over time as follows: (1) a transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or, in the case of very small businesses transferring to small businesses, 100 percent of the difference between the bidding credit received by the former and the bidding credit for which the latter is eligible); (2) in year three of the license term the payment will be 75 percent; (3) in year four the payment will be 50 percent, and (4) in year five the payment will be 25 percent, after which there will be no required payment. These assessments will have to be paid to the U.S. Treasury as a condition of approval of the assignment or transfer.

316. In addition, if a licensee that qualifies for installment payments seeks to assign or transfer control of its license during its term to an entity that does not meet the small business or very small business definition, we will require payment of the remaining principal and any interest accrued through the date of assignment as a condition of the license assignment or transfer. Also, if an investor subsequently purchases an interest in the business and, as a result, the gross revenues of the business exceed the applicable financial caps, this unjust enrichment provision will apply. We will apply these payment requirements for the entire license term to ensure that small businesses will look first to other small businesses when deciding to transfer their licenses. However, we will not impose a holding period or other transfer restrictions on these licensees.

i. *Spectrum Set-Asides*

(1) Proposal

317. In the *Third Notice* we expressed our concern, based on our experience with PCS, that designated entities may have difficulty competing for Phase II 220 MHz licenses against large firms with significant financial resources. We tentatively concluded, however, that the relatively large number of licenses available and the relatively small spectrum allocations in the 220 MHz service should allow for extensive small business participation without the use of spectrum set-asides. In addition, we expressed our belief that the effectiveness of bidding credits, reduced down payments, and installment payments would not be diluted as in broadband PCS due to the smaller capital outlay anticipated for the 220 MHz service.[552]

(2) Comments

[552] *Id.* at 275 (para. 181).

318. No commenters addressed this issue.

(3) Decision

319. Because there will be both a large number and a large variety of licenses available in the Phase II 220 MHz auction, we will not adopt an entrepreneurs' block for the service. We conclude that small businesses will have a significant opportunity to compete for Phase II 220 MHz licenses, particularly given the special provisions that we have adopted for small businesses.

FIFTH NOTICE OF PROPOSED RULEMAKING

V. INTRODUCTION

320. In the Order we are adopting today we have concluded that we will permit any holder of a Phase II EA, Regional, or nationwide 220 MHz license[553] to partition portions of its authorization.[554] In the recent *Partitioning Report and Order* we expanded our rules to permit geographic partitioning and disaggregation for broadband PCS licensees, and we sought comment on geographic partitioning and spectrum disaggregation for cellular and General Wireless Communications Service (GWCS).[555] We have previously examined partitioning and disaggregation issues for other services on a service-by-service basis and we presently permit, or are seeking comment on, geographic partitioning and spectrum disaggregation for several services, *e.g.*, Multipoint Distribution Service (MDS),[556] GWCS,[557] 800 MHz Specialized Mobile Radio (SMR),[558] paging,[559] 38 GHz fixed point-to-point microwave,[560] 900 MHz SMR,[561] and the Wireless Communications Service (WCS).[562]

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[553] We refer to such licensees in this Fifth Notice as ``covered Phase II licensees." Phase II licensees that are not included in this definition are those Phase II licensees that are authorized to use Public Safety or EMRS channels.

[554] See para. 308, *supra*.

[555] 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, FCC 96-474, paras. 93-113 (released Dec. 20, 1996) (*Partitioning Report and Order*).

[556] Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, Report and Order, 10 FCC Rcd 9589, 9614-15 (paras. 46-47) (1995) (*MDS Report and Order*). Additionally, we impose unjust enrichment provisions for partitioning by small businesses to other businesses. *See* Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, Memorandum and Order on Reconsideration, 10 FCC Rcd 13821, 13833 (paras. 69-70) (1995).

[557] Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624, 665 (para. 105) (1995) (*GWCS Second Report and Order*), *recon. pending* (permitting rural telephone company partitioning).

[558] 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, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making, 11 FCC Rcd 1463, 1576, 1578, 1580 (paras. 253, 257, 264) (1995) (*800 MHz Second FNPRM*) (requesting comment on partitioning and disaggregation).

[559] Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, WT Docket No. 96-18, Second Report and Order and Further Notice of Proposed Rulemaking, FCC 97-59, paras. 192-94 (released February 24, 1997) (*Paging Report and Order*) (permitting all geographic area paging licensees to partition to any party eligible to be a paging licensee).

[560] 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, Notice of Proposed Rulemaking and Order, 11 FCC Rcd 4930, 4942-43, 4972-73, (paras. 24, 89-90) (1995) (*38 GHz NPRM*) (proposing partitioning for rural telephone companies, and

321. We believe that it is appropriate at this time to consider whether to permit full partitioning and disaggregation in the 220 MHz service. As we indicated in the *Partitioning Report and Order*, we found partitioning and disaggregation to be an effective means of providing broadband PCS licensees with the flexibility they need to tailor their service offerings to meet market demands.[563] In addition, the *Partitioning Report and Order* concluded that partitioning and disaggregation may be used to overcome entry barriers through the creation of smaller licenses that require less capital, thereby facilitating greater participation by small businesses, rural telephone companies, and minority- and female-owned businesses.[564] Therefore, we seek comment on whether these benefits similarly justify extension of partitioning rules to Phase I nationwide licensees, and establishment of disaggregation rules for the 220 MHz service.

VI. DISCUSSION

A. PARTITIONING AND DISAGGREGATION FOR 220 MHZ SERVICE

322. In the Order we adopt today, we have decided to allow partitioning of covered 220 MHz Phase II licenses.[565] In this Fifth Notice of Proposed Rulemaking we will seek comment as to how various requirements imposed on covered Phase II licensees (*e.g.*, construction requirements) may be modified if such licensees partition their authorization. We seek comment as to whether partitioning of 220 MHz Phase I nationwide licenses should be permitted in a manner similar to the rules for partitioning we have adopted for broadband PCS licensees. We tentatively conclude that we should not adopt partitioning for those Phase II licensees that are not covered Phase II licensees and non-nationwide Phase I licensees because such licenses are awarded on a site specific basis rather than for a geographic area. In addition, we seek comment as to whether all Phase I and Phase II 220 MHz licensees should be permitted to disaggregate their licensed spectrum. Since the 220 MHz service includes non-commercial uses, *e.g.*, use of

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seeking comment on whether partitioning and disaggregation should be available to all licensees in the 37 GHz band).

[561] 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, PR Docket No. 89-553, Second Order on Reconsideration and Seventh Report and Order, 11 FCC Rcd 2639, 2711-12 (paras. 177-179) (1995) (*900 MHz Second Reconsideration Order*) (adopting rural telephone company partitioning). On September 20, 1996, American Mobile Telecommunications Association, Inc., filed a Petition for Rulemaking requesting the Commission to expand its rules to permit partitioning to include all 900 MHz SMR licenses and to permit spectrum disaggregation. *See* American Mobile Telecommunications Association, Inc., Files Petition for Rulemaking to Expand Geographic Partitioning and Spectrum Disaggregation Provisions for 900 MHz SMR, Public Notice, DA 96-1654 (released Oct. 4, 1996). That Petition for Rulemaking was incorporated into the 800 MHz rulemaking proceeding, PR Docket No. 94-144, where similar partitioning and disaggregation issues are being considered. *Id.*

[562] *Wireless Communications Service Report and Order*, (paras. 96-103) (adopting partitioning and disaggregation for all licensees in the Wireless Communications Service).

[563] *Partitioning Report and Order* at para. 2.

[564] *Id.*

[565] See para. 308, *supra*.

spectrum for internal communication, by Public Safety and EMRS entities, we seek comment as to whether additional rules for partitioning and disaggregation should be adopted to address the use of the 220 MHz service for possible commercial and non-commercial services.

323. In the following paragraphs we seek comment on specific aspects of partitioning and disaggregation, which we will need to address if we decide to adopt partitioning for Phase I nationwide licensees and disaggregation for all 220 MHz licensees. For example, Phase I nationwide licensees are not currently permitted to assign or transfer a license before the licensee has constructed at least 40 percent of the proposed system.[566] We therefore seek comment as to whether a Phase I nationwide licensee should be permitted to partition or disaggregate prior to constructing at least 40 percent of its proposed system. We also seek comment as to whether there are technical or regulatory constraints unique to the 220 MHz service, such as, for example, the construction requirements for Phase I nationwide licensees, that would render partitioning or disaggregation impractical or administratively burdensome. Further, we recognize that there are special competitive bidding issues, similar to those raised in the broadband PCS context, that must be resolved if we permit partitioning and disaggregation for the 220 MHz service. We shall address those issues separately in paragraphs 343 and 344, *infra*.

B. AVAILABLE LICENSE AREA

324. In the *Partitioning Report and Order*, we found that allowing partitioning of broadband PCS licenses along any service area defined by the parties is the most logical approach.[567] We concluded that allowing the parties to define the partitioned PCS service area would allow licensees to design flexible and efficient partitioning agreements which would permit marketplace forces to determine the most suitable service areas. We also found that requiring PCS partitioning along county lines was too restrictive and might discourage partitioning.[568]

325. Covered Phase II 220 MHz service areas are based on either Economic Areas or Regional Areas.[569] In addition, there are Phase I and Phase II nationwide licenses in the 220 MHz service. We tentatively conclude that a flexible approach to partitioned areas, similar to the one we adopted for broadband PCS, is appropriate for the 220 MHz service. We therefore propose to permit partitioning of Phase I nationwide and covered Phase II 220 MHz licenses based on any license area defined by the parties. We seek comment on this proposal, and in particular on whether this proposal is consistent with our licensing of the 220 MHz service, and whether there are any technical or other issues unique to the 220 MHz service that might impede the adoption of a flexible approach to defining the partitioned license area.

C. MINIMUM OR MAXIMUM DISAGGREGATION STANDARDS

326. We seek comment as to whether, if we permit disaggregation in the 220 MHz

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[566] Section 90.709 of the Commission's Rules, 47 C.F.R. § 90.709.

[567] *Partitioning Report and Order* at para. 24.

[568] *Partitioning Report and Order* at paras. 23-24.

[569] See para. 80, *supra*.

service, minimum disaggregation standards are necessary. We seek to determine whether, given the unique characteristics of the 220 MHz service, technological and administrative considerations warrant the adoption of such standards. Licensees in this service may be authorized to use as few as one relatively narrow 5 kHz channel pair to as many as 15 channel pairs (*i.e.*, in a Phase II Regional authorization). We seek comment as to whether we should adopt standards which would be flexible enough to encourage disaggregation while providing a standard which is consistent with our technical rules and by which we would be able to track disaggregated spectrum and review disaggregation proposals in an expeditious fashion.

D. COMBINED PARTITIONING AND DISAGGREGATION

327. We seek comment regarding whether combined partitioning and disaggregation should be permitted for the 220 MHz service. By ``combined" partitioning and disaggregation we refer to circumstances in which a licensee would be authorized, for example, to obtain a license for a portion of a Region with only two channels. As another example, the licensee could obtain a license consisting of a partitioned portion of one or more other licenses held by other 220 MHz service providers *and* a disaggregated portion of one or more other licenses held by other 220 MHz service providers. We tentatively conclude that we should permit such combinations in order to provide parties the flexibility they need to respond to market forces and demands for service relevant to their particular locations and service offerings.

E. CONSTRUCTION REQUIREMENTS

328. In the Order we have adopted today we require that covered Phase II licensees implementing nationwide land mobile or paging systems must construct base stations that provide coverage to a composite area of at least 750,000 square kilometers or serve at least 37.5 percent of the population of the United States within five years of initial license grant, and that provide coverage to at least 1,500,000 square kilometers or at least 75 percent of the population within 10 years of the grant.[570] We have permitted covered Phase II licensees implementing fixed operations as part of their nationwide system to meet five- and 10-year ``substantial service" requirements as an alternative to meeting the above-mentioned construction requirements.[571]

329. We also have required EA and Regional licensees implementing land mobile or paging systems to construct base stations to provide coverage to at least one-third of the population of their EA or Region within five years of initial authorization and at least two-thirds of the population of their EA or Region within 10 years of initial authorization.[572] EA and Regional licensees that are offering fixed services as part of their EA and Regional system and those licensees who, because of the existence of one or more incumbent co-channel licensees in their EA or Region, can only provide service to populations outside of the areas served by these incumbents, have the option of providing a showing of substantial service.[573]

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[570] See para. 158, *supra*.

[571] *Id.*

[572] See para. 163, *supra*.

[573] *Id.*

330. In the *Partitioning Report and Order*, we adopted two construction options for partitioning for broadband PCS that give the parties the flexibility to choose how to apportion the responsibility to build out the partitioned license area, while also ensuring that the spectrum is used to the same degree that would have been required had the partitioning transaction not taken place.[574] Under the first option, the partitionee certifies that it will satisfy the same construction requirements as the original licensee.[575] The partitionee then must meet the prescribed service requirements in its partitioned area while the partitioner is responsible for meeting those requirements in the area it has retained.[576]

331. Under the second option, the original licensee certifies that it has already met or will meet its five-year construction requirement and that it will meet the 10-year construction requirement for the entire market involved.[577] Because the original licensee retains the responsibility for meeting the construction requirements for the entire market, the partitionee is permitted to comply with a less rigorous construction requirement[578] -- the partitionee must only meet a substantial service requirement for its partitioned license area at the end of the 10-year license term.[579]

332. In addition, we required that, at the five-year benchmark, broadband PCS partitionees must file supporting documentation showing compliance with the construction requirements.[580] The *Partitioning Report and Order* further provides that licensees failing to meet the service requirements will be subject to forfeiture, license cancellation, or other penalties.[581]

333. We seek comment as to whether we should adopt rules for covered Phase II licensees to establish dual construction options and attendant requirements for 220 MHz service partitioners and partitionees, similar to those we have adopted for broadband PCS. Since our Rules do not currently provide for a lesser construction requirement, we particularly seek comment as to the appropriateness of the lesser construction requirement for the second option.

334. With respect to disaggregation, the *Partitioning Report and Order* has established a

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[574] *See Partitioning Report and Order* at paras. 42-43. These objectives are the same in the case of the disaggregation rules adopted in the *Partitioning Report and Order*. *See id*. at para. 62.

[575] *Id.* at para. 42.

[576] *Id.*

[577] *Id.*

[578] *Id.*

[579] *Id.*

[580] *Id.* at para. 43.

[581] *Id.*

flexible approach similar to the rules adopted for partitioning.[582] This approach retains the underlying five- and 10-year construction requirements for the spectrum block as a whole, but then allows either party to the disaggregation agreement to meet the construction requirements with respect to its disaggregated portion of the license.[583] Thus:[584]

> [A] . . . licensee who disaggregates a portion of its spectrum may elect to retain responsibility for meeting the five and ten-year coverage requirements, or it may negotiate a transfer of this obligation to the disaggregatee. In either case, the rules ensure that the spectrum will be developed to at least the same degree that was required prior to disaggregation.

The rules we adopted in the *Partitioning Report and Order* also provide that parties seeking Commission approval of a disaggregation agreement must certify with respect to which party will assume responsibility for complying with the applicable five- and 10-year construction requirements.[585] Parties may also propose to share the responsibility for meeting these requirements.[586] As part of the Commission's public interest review under Section 310(d), the Commission will review each transaction to ensure that the party designated as responsible for meeting the construction requirements is a *bona fide* licensee and has the requisite ability and resources to meet the applicable requirements. If only one party agrees to take responsibility for meeting the construction requirement and later fails to comply with the requirement, then that party's license will be subject to forfeiture.[587] The license of the other party to the agreement, however, will not be affected by such a failure to comply.[588] If both parties agree to share the responsibility for meeting the construction requirements and either party later fails to do so, then both parties' licenses will be subject to forfeiture.[589]

335. We seek comment as to whether we should adopt rules for covered Phase II licensees similar to those disaggregation rules we have adopted for broadband PCS. Under such a certification approach, the disaggregating parties would be required to submit a certification, signed by both the disaggregator and disaggregatee, stating whether one or both of the parties will retain responsibility for meeting the five- and 10-year construction requirements for the 220 MHz market involved. If one party takes responsibility for meeting the construction requirements, then that party would be subject to license forfeiture for failing to meet the construction requirements,

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[582] *Id*. at para. 62.

[583] *Id.*

[584] *Id*.

[585] *Id*. at para. 63.

[586] *Id.*

[587] *Id.*

[588] *Id*.

[589] *Id*.

but such a failure would not affect the status of the other party's license. If both parties agree to share the responsibility for meeting the construction requirements, then both parties' licenses would be subject to forfeiture if either party fails to meet the construction requirements.

336. We are proposing rules for licensees other than covered Phase II licensees that differ from the approach we have taken in the *Partitioning Report and Order*. Phase I non-nationwide licensees and Phase II licensees authorized on Public Safety or EMRS channels are not authorized to operate within a particular geographic area, but instead are authorized to construct a single land mobile base station for base and mobile operations. Phase I non-nationwide licensees must construct their systems, having all specified base stations constructed with all channels, and place their systems in operation within eight months of the initial license grant.[590]

337. In the Order we adopted today we have concluded that Phase II licensees operating on Public Safety or EMRS channels must construct their authorized base station and place it in operation within 12 months of initial authorization.[591] Consistent with our decision in this Order that Phase I non-nationwide licensees will be permitted to begin primary fixed or paging operations only after meeting the requirement that they construct their land mobile base station and place it in operation or commence service,[592] we propose that Phase I non-nationwide licensees be permitted to disaggregate their licensed spectrum only after they have met the applicable construction deadline. We also propose that Phase II licensees operating on Public Safety or EMRS channels should be permitted to disaggregate their licensed spectrum only after they have met the applicable construction deadline. Since the construction deadline would therefore be met before any disaggregation is allowed, no construction requirement would be imposed on a disaggregatee. We seek comment on these proposals.

338. Phase I nationwide licensees are subject to a series of construction requirements set out in Section 90.725 of our Rules at two, four, six, and 10 years after the initial license grant.[593] These construction requirements are based on the licensee constructing base stations in specific percentages of geographic areas that the licensee designated in its application, including base stations in a specific number of urban areas listed in Section 90.741 of the Commission's Rules.[594] Unlike the broadband PCS rules, which do not dictate a minimum level of spectrum usage by the original PCS licensee,[595] our construction rules for Phase I nationwide licensees require that the constructed base stations have a minimum of five nationwide channels. We tentatively conclude, therefore, that a disaggregatee obtaining spectrum from a Phase I nationwide licensee should be required to meet the same construction requirements as the original licensee. The disaggregatee would be required to meet the same two-, four-, six-, and 10-year requirements as the original

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[590] Section 90.725(f) of the Commission's Rules, 47 C.F.R. § 90.725(f). The construction deadline was extended as outlined at para. 22 n.17, *supra*.

[591] See para. 166, *supra*.

[592] See para. 139, *supra*.

[593] Section 90.725 of the Commission's Rules, 47 C.F.R. § 90.725.

[594] Section 90.741 of the Commission's Rules, 47 C.F.R. § 90.741.

[595] *See Partitioning Report and Order* at para. 62.

licensee for the spectrum it obtains, while the original licensee would be responsible for meeting the requirements for the spectrum it retains. We seek comment on this tentative conclusion.

339. Since the construction requirements for Phase I nationwide licensees differ so markedly from those pertaining to Phase II nationwide licensees or licensees in other services such as broadband PCS or GWCS, it does not appear, as a practical matter, to be possible to have similar construction options for Phase I nationwide partitionees. For example, a Phase I partitionee may never be able to meet the requirement of Section 90.725(a)(2) that, within four years, it construct base stations in at least 28 of the 100 urban areas listed in Section 90.741, since a Phase I partitionee may not even have that many urban areas in its partitioned area. Thus, the first option adopted in the *Partitioning Report and Order*, under which the partitionee certifies that it will satisfy the same construction requirements as the original license, does not appear to be a viable mechanism in the case of Phase I nationwide licensees in the 220 MHz service.

340. Similarly, the original licensee may not have 28 urban areas remaining after it partitions its license. Thus, the second option adopted in the *Partitioning Report and Order*, under which the original licensee certifies that it has met or will meet all of the construction requirements, would likewise not be possible. Given the difficulties created by these construction requirements, we seek comment on whether partitioning of Phase I nationwide licenses should be permitted. If such partitioning is allowed, we seek comment on what construction requirements could be imposed on the original licensee and any partitionees. In light of the unique construction requirements imposed on Phase I nationwide licensees, we also seek comment on what type of construction requirements should be imposed on Phase I licensees and their partitionees and disaggregatees if a Phase I nationwide license is both partitioned and disaggregated.

F. LICENSE TERM

341. Phase I non-nationwide 220 MHz licenses are granted for five-year terms and Phase I nationwide 220 MHz licenses are granted for a period of 10 years.[596] In the Order we have adopted today we established a 10-year license term for both nationwide[597] and non-nationwide Phase II 220 MHz licenses.[598] We further found that all Phase I and Phase II licensees seeking renewal of their authorizations must meet the requirements for license renewal identical to those provided in Section 22.940 of our rules.[599] Therefore, 220 MHz licensees that demonstrate that they have provided substantial service during their past license terms and have substantially complied with the Commission's rules, policies, and the Communications Act, will be granted a renewal expectancy.[600]

342. In the *Partitioning Report and Order*, we found that allowing parties acquiring a

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[596] *See* Section 90.149 of the Commission's Rules, 47 C.F.R. § 90.149. *See also CMRS Third Report and Order*, 9 FCC Rcd 8157 (para. 386) (modifying 47 C.F.R. § 90.149 (1994)).

[597] See para. 54, *supra*.

[598] See para. 133, *supra*.

[599] Section 22.940 of the Commission's Rules, 47 C.F.R. § 22.940.

[600] *See* Section 22.940(a) of the Commission's Rules, 47 C.F.R. § 22.940(a).

partitioned license or disaggregated spectrum to ``re-start'' the license term from the date of the grant of the partial assignment application could allow parties to circumvent our established license term rules and unnecessarily delay service.[601] We seek comment as to whether our 220 MHz rules should similarly provide that parties obtaining partitioned 220 MHz licenses or disaggregated spectrum hold their license for the remainder of the original licensee's five- or 10-year license term. In addition, we seek comment as to whether 220 MHz partitionees and disaggregatees should be afforded the same renewal expectancy as other 220 MHz licensees. We tentatively conclude that limiting the license term of the partitionee or disaggregatee is necessary to ensure that there is maximum incentive for parties to pursue available spectrum as quickly as practicable.

G. COMPETITIVE BIDDING ISSUES

343. Competitive bidding issues similar to those in broadband PCS arise in the context of 220 MHz service partitioning and disaggregation. Our competitive bidding rules for the covered Phase II 220 MHz service include provisions for installment payments and bidding credits for small businesses and very small businesses.[602] We also adopted rules to prevent unjust enrichment by such entities that seek to transfer licenses obtained through use of one of these special benefits.[603] We tentatively conclude that the Phase II 220 MHz service partitionees and disaggregatees that would qualify as small businesses or very small businesses should be permitted to pay their pro rata share of the remaining government obligation through installment payments. We seek comment on this tentative conclusion. We further invite comment as to the exact mechanisms for apportioning the remaining government obligation between the parties and whether there are any unique circumstances that would make devising such a scheme for the Phase II 220 MHz service more difficult than for broadband PCS. Since Phase II 220 MHz service areas are allotted on a geographic basis, in a manner similar to broadband PCS, we propose using population as the objective measure to calculate the relative value of the partitioned area and amount of spectrum disaggregated as the objective measure for disaggregation, and we seek comment on this proposal.

344. We seek comment on whether to apply unjust enrichment rules to small or very small business Phase II 220 MHz licensees that partition or disaggregate to non-small businesses. Commenters should address how to calculate unjust enrichment payments for designated entity Phase II 220 MHz service licensees paying through installment payments and those that were awarded bidding credits that partition or disaggregate to non-small businesses. We ask that commenters also address how we should calculate unjust enrichment payments in situations where a very small business partitions or disaggregates to a small business that qualifies for a lower bidding credit. Commenters should address whether the unjust enrichment payments should be calculated on a proportional basis, using population of the partitioned area and amount of spectrum disaggregated as the objective measures. We propose using methods similar to those adopted for broadband PCS for calculating the amount of the unjust enrichment payments that

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[601] *Partitioning Report and Order* at para. 77.

[602] See paras. 296-303, *supra*.

[603] See paras. 312-316, *supra*.

must be paid in such circumstances, and we seek comment on this proposal.[604]

H. LICENSING ISSUES

345. Section 90.709(d) of our Rules currently forbids partial assignment of Phase I 220 MHz licenses.[605] However, since there are existing partial assignment rules for commercial mobile radio stations in Part 90,[606] we propose utilizing partial assignment procedures, similar to those adopted for broadband PCS, to review 220 MHz partitioning and disaggregation transactions. Partial assignment applications would be placed on public notice and subject to petitions to deny. The parties would be required to submit an FCC Form 490, an FCC Form 600 and, if necessary, an FCC Form 430, together as one package under cover of the FCC Form 490. We invite comment on whether any additional procedures are necessary for reviewing these applications. We also seek comment on how licensing issues should be addressed for non-commercial mobile radio stations in the 220 MHz service with respect to partial assignments.

VII. PROCEDURAL MATTERS

346. This is a non-restricted notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission Rules.[607]

347. Pursuant to applicable procedures set forth in Section 1.415 and 1.419 of the Commission's Rules,[608] interested parties may file comments on or before **April 15, 1997**, and reply comments on or before **April 30, 1997**. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington D.C. 20554. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained in the Fifth Notice of Proposed Rulemaking or the Third Report and Order should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W. Washington, D.C. 20554, or via the Internet to dconway@fcc.gov. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor: International Transcription Service, Inc. (ITS, Inc.), 2100 M Street, N.W., Suite 140, Washington, D.C. 20037, (202) 857-3800.

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[604] *Partitioning Report and Order* at paras. 34-35.

[605] Section 90.709(d) of the Commission's Rules, 47 C.F.R. § 90.709(d).

[606] *See* Section 90.153 of the Commission's Rules, 47 C.F.R. § 90.153.

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

[608] 47 C.F.R. §§ 1.415, 1.419.

Initial and Final Paperwork Reduction Act of 1995 Analyses

348. This Third Report and Order and Fifth Notice of Proposed Rulemaking contains either a proposed or modified information collection. As part of its continuing effort to reduce paperwork burdens, the Commission invites the general public to take this opportunity to comment on the information collections contained in both the Third Report and Order and the Fifth Notice of Proposed Rulemaking as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and Agency comments on the information collections contained in the Fifth Notice of Proposed Rulemaking are due 60 days after publication of the summary of the Fifth Notice of Proposed Rulemaking in the Federal Register. Public comments on the information collections contained in the Third Report and Order are due 60 days after publication of the summary of the Third Report and Order in the Federal Register. These comments should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, D.C. 20554, or via the Internet to dconway@fcc.gov. Comments on the information collections contained in both the Third Report and Order and the Fifth Notice of Proposed Rulemaking should address: (a) 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; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

Initial and Final Regulatory Flexibility Act Analyses

349. As required by the Regulatory Flexibility Act of 1980, Pub. L. No. 96-354, 94 Stat. 1164, as amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847, 5 U.S.C. § 601 et seq., the Commission has prepared a Final Regulatory Flexibility Analysis of the expected impact of the rule changes in this document on small entities. The Final Regulatory Flexibility Analysis is set forth in Appendix A. In addition, as required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 an Initial Regulatory Flexibility Analysis of the expected impact on small entities of the proposals suggested in this document is contained in Appendix F. Written public comments are requested on the Initial Regulatory Flexibility Analysis. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the Notice portion of this decision, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Secretary shall send a copy of this Third Report and Order and Fifth Notice of Proposed Rulemaking, including the Initial and Final Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act.[609]

VIII. ORDERING CLAUSES

350. Authority for issuance of this Third Report and Order is contained in Sections 4(i), 303(r), 309(j), and 332 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 303(r), 309(j),

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[609] Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. Section 601 *et seq.* (1980).

332.

351. Accordingly, IT IS ORDERED that Part 90 of the Commission's Rules, 47 C.F.R. Part 90, IS AMENDED as set forth in Appendix B, effective 140 days after publication of this Order in the Federal Register.

352. IT IS FURTHER ORDERED that the Petitions for Reconsideration filed by Columbia Cellular Corporation, PLMRS Narrowband Corp. and 360 Mobile Data Joint Venture on August 6, 1993, ARE DISMISSED as moot.

353. IT IS FURTHER ORDERED that, pursuant to 47 U.S.C. § 155(c), the Chief, Wireless Telecommunications Bureau, IS GRANTED DELEGATED AUTHORITY to implement and modify auction procedures in the Phase II 220 MHz service, including the general design and timing of an auction; the number and grouping of authorizations to be offered in any particular auction; the manner of submitting bids; the amount of minimum opening bids and bid increments; activity and stopping rules; and application and payment requirements, including the amount of upfront payments; and to announce such procedures by Public Notice.

354. IT IS FURTHER ORDERED that all pending nationwide and non-nationwide 220 MHz applications, together with the appropriate filing fees, will be returned to applicants, without prejudice.

355. IT IS FURTHER ORDERED that a Public Notice will be issued announcing the acceptance of applications for authorizations on Channels 161-170 and Channels 181-185 after 140 days after publication of this Order in the Federal Register.

356. IT IS FURTHER ORDERED that applications for temporary, secondary authorizations for geophysical telemetry operations will be accepted beginning 140 days after publication of this Order in the Federal Register.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

SELECTED FCC RULES

This is an unofficial staff compilation of selected rules applicable to the 220 MHz Service, drawn from Parts 1 and 90 of the FCC's Rules, which applicants may use until such time as the Government Printing Office publishes a current version in the Code of Federal Regulations (CFR). Applicants should refer to the official version of the rules contained in FCC orders and in the Federal Register. The official rules govern in the case of conflicts. Relevant orders adopted to date by the FCC are provided in Tab E of this Bidder Information Package. Applicants need to stay apprised of any rule changes that occur after release of this Bidder Information Package by checking the FCC website and the Federal Register.

PART 90--PRIVATE LAND MOBILE RADIO SERVICES

PART T--Regulations Governing Licensing and Use of Frequencies in the 220-222 MHz Band

Sec. 90.701 Scope.

(a) Frequencies in the 220-222 MHz band are available for land mobile and fixed use for both Government and non-Government operations. This subpart sets out the regulations governing the licensing and operation of non-Government systems operating in the 220-222 MHz band. It includes eligibility requirements, application procedures, and operational and technical standards for stations licensed in these bands. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflicts, the provisions of this subpart shall govern with respect to licensing and operation in this frequency band.

(b)(1) Licensees granted initial authorizations for operations in the 220-222 MHz band from among applications filed on or before May 24, 1991 are referred to in this subpart as "Phase I" licensees;

(2) Applicants that filed initial applications for operations in the 220-222 MHz band on or before May 24, 1991 are referred to in this subpart as "Phase I" applicants; and

(3) All assignments, operations, stations, and systems of licensees granted authorizations from among applications filed for operations in the 220-222 MHz band on or before May 24, 1991 are referred to in this subpart as "Phase I" assignments, operations, stations, and systems, respectively.

(c)(1) Licensees granted initial authorizations for operations in the 220-222 MHz band from among applications filed after May 24, 1991 are referred to in this subpart as "Phase II" licensees;

(2) Applicants that filed initial applications for operations in the 220-222 MHz band after May 24, 1991 are referred to in this subpart as "Phase II" applicants; and

(3) All assignments, operations, stations, and systems of licensees granted authorizations from among applications filed for operations in the 220-222 MHz band after May 24, 1991 are referred to in this subpart as "Phase II" assignments, operations, stations, and systems, respectively.

(d) The rules in this subpart apply to both Phase I and Phase II licensees, applicants, assignments, operations, stations, and systems, unless otherwise specified.

Sec. 90.703 Eligibility.

The following persons are eligible for licensing in the 220-222 MHz band.

(a) Any person eligible for licensing under subparts B or C of this part.

(b) Any person proposing to provide communications service to any person eligible for licensing under subparts B or C of this part, on a not-for-profit, cost-shared basis.

(c) Any person eligible under this part proposing to provide on a commercial basis, station and ancillary facilities for the use of individuals, federal government agencies and persons eligible for licensing under subparts B or C of this part.

Sec. 90.705 Forms to be used.

Phase II applications for EA, Regional, or Nationwide radio facilities under this subpart must be prepared in accordance with Sections 90.1009 and 90.1013. Phase II applications for radio facilities operating on public safety/mutual aid channels (Channels 161 through 170) or emergency medical channels (Channels 181 through 185) under this subpart must be prepared on FCC Form 600 and submitted or filed in accordance with Section 90.127.

Sec. 90.709 Special limitations on amendment of applications and on assignment or transfer of authorizations licensed under this subpart.

(a) Except as indicated in paragraph (b) of this section, the Commission will not consent to the following:

(1) Any request to amend an application so as to substitute a new entity as the applicant;

(2) Any application to assign or transfer a license for a Phase I, non-nationwide system prior to the completion of construction of facilities; or

(3) Any application to transfer or assign a license for a Phase I nationwide system before the licensee has constructed at least 40 percent of the proposed system pursuant to the provisions of Section 90.725(a) or Section 90.725(h), as applicable.

(b) The Commission will grant the applications described in paragraph (a) of this section if:

(1) the request to amend an application or to transfer or assign a license does not involve a substantial change in the ownership or control or the applicant; or

(2) The changes in the ownership or control of the applicant are involuntary due to the original applicant's insolvency, bankruptcy, incapacity, or death.

(c) The assignee or transferee of a Phase I nationwide system is subject to the construction benchmarks and reporting requirements of Section 90.725. The assignee or transferee of a Phase I nationwide system is not subject to the entry criteria described in Section 90.713.

(d) A licensee may not partially assign any authorization granted pursuant to the subpart.

(e) The assignee or transferee of a Phase II system is subject to the provisions of Section 90.1017 and Section 1.2111(a) of this chapter.

Sec. 90.711 Processing of Phase II applications.

(a) Phase II applications for authorizations on Channels 166 through 170 and Channels 181 through 185 will be processed on a first-come, first-served basis. When multiple applications are filed on the same day for these frequencies in the same geographic area, and insufficient frequencies are available to grant all applications (*i.e.*, if all applications were granted, violation of the station separation provisions of Section 90.723(k) would result), these applications will be considered mutually exclusive and will be subject to random selection procedures pursuant to Section 1.972 of this chapter.

(1) All applications will first be considered to determine whether they are substantially complete and acceptable for filing. If so, they will be assigned a file number and put in pending

status. If not, they will be dismissed.

(2) Except as otherwise provided in this section, all applications in pending status will be processed in the order in which they are received, determined by the date on which the application was received by the Commission in its Gettysburg, Pennsylvania office (or the address set forth at Section 1.1102 of this chapter for applications requiring the fees established by part 1, subpart G of this chapter).

(3) Each application that is accepted for filing will then be reviewed to determine whether it can be granted. Frequencies will be assigned by the Commission pursuant to the provisions of Section 90.723.

(4) An application which is dismissed will lose its place in the processing line.

(5) If an application is returned for correction and resubmitted and received by the Commission within 60 days from the date on which it was returned to the applicant, it will retain its place in the processing line. If it is not received within 60 days, it will lose its place in the processing line.

(b) All applications for Channels 161 through 165 that comply with the applicable rules of this part shall be granted. Licensees operating on such channels shall cooperate in the selection and use of frequencies and resolve any instances of interference in accordance with the provisions of Section 90.173.

(c) Phase II applications for authorization on all non-Government channels other than Channels 161 through 170 and 181 through 185 shall be processed in accordance with the provisions of subpart W of this part.

Sec. 90.713 Entry criteria.

(a) As set forth in Section 90.717, four 5-channel blocks are available for nationwide, commercial use to non-Government, Phase I applicants. Applicants for these nationwide channel blocks must comply with paragraphs (b), (c), and (d) of this section.

(b)(1) An applicant must include certification that, within ten years of receiving a license, it will construct a minimum of one base station in at least 70 different geographic areas designated in the application; that base stations will be located in a minimum of 28 of the 100 urban areas listed in Section 90.741; and that each base station will have all five assigned nationwide channels constructed and placed in operation (regularly interacting with mobile and/or portable units).

(2) An applicant must include certification that it will meet the construction requirements set forth in Section 90.725.

(3) An applicant must include a ten-year schedule detailing plans for construction of the proposed system.

(4) An applicant must include an itemized estimate of the cost of constructing 40 percent of the system and operating the system during the first four years of the license term.

(5) An applicant must include proof that the applicant has sufficient financial resources to construct 40 percent of the system and operate the proposed land mobile system for the first four years of the license term; *i.e.*, that the applicant has net current assets sufficient to cover estimated costs or a firm financial commitment sufficient to cover estimated costs.

(c) An applicant relying on personal or internal resources for the showing required in paragraph (b) of this section must submit independently audited financial statements certified within one year of the date of the application showing net current assets sufficient to meet estimated construction

and operating costs. An applicant must also submit an unaudited balance sheet, current within 60 days of the date of submission, that clearly shows the continued availability of sufficient net current assets to construct and operate the proposed system, and a certification by the applicant or an officer of the applicant organization attesting to the validity of the balance sheet.

(d) An applicant submitting evidence of a firm financial commitment for the showing required in paragraph (b) of this section must obtain the commitment from a bona fide commercially acceptable source, *e.g.*, a state or federally chartered bank or savings and loan institution, other recognized financial institution, the financial arm of a capital equipment supplier, or an investment banking house. If the lender is not a state or federally chartered bank or savings and loan institution, other recognized financial institution, the financial arm of a capital equipment supplier, or an investment banking house, the lender must also demonstrate that it has funds available to cover the total commitments it has made. The lender's commitment shall contain a statement that the lender:

(1) Has examined the financial condition of the applicant including an audited financial statement, and has determined that the applicant is creditworthy;

(2) Has examined the financial viability of the proposed system for which the applicant intends to use the commitment; and

(3) Is willing, if the applicant is seeking a Phase I, commercial nationwide license, to provide a sum to the applicant sufficient to cover the realistic and prudent estimated costs of construction of 40 percent of the system and operation of the system for the first four years of the license term.

(e) A Phase II applicant for authorization in a geographic area for Channels 166 through 170 in the public safety/mutual aid category may not have any interest in another pending application in the same geographic area for Channels 166 through 170 in the public safety/mutual aid category, and a Phase II applicant for authorization in a geographic area for channels in the emergency medical category may not have any interest in another pending application in the same geographic area for channels in the emergency medical category.

Sec. 90.715 Frequencies available.

(a) The following table indicates the channel designations of frequencies available for assignment to eligible applicants under this subpart. Frequencies shall be assigned in pairs, with base station frequencies taken from the 220-221 MHz band with corresponding mobile and control station frequencies being 1 MHz higher and taken from the 221-222 MHz band. Only the lower half of the frequency pair(s) is listed in the table. Use of these frequencies in the Mexican and Canadian border areas is subject to coordination with those countries. See paragraph (c) of this section for special provisions concerning use in the Mexico border area.

Table of 220-222 MHz Channel Designations

Channel No.	Base frequency (MHz)
1	220.0025
2	.0075
3	.0125
4	.0175
5	.0225
6	.0275
7	.0325
8	.0375
9	.0425
10	.0475
11	.0525
12	.0575
13	.0625
14	.0675
15	.0725
16	.0775
17	.0825
18	.0875
19	.0925
20	.0975
21	220.1025
22	.1075
23	.1125
24	.1175
25	.1225
26	.1275
27	.1325
28	.1375
29	.1425
30	.1475
31	.1525
32	.1575
33	.1625
34	.1675
35	.1725
36	.1775
37	.1825
38	.1875

39	.1925
40	.1975
41	220.2025
42	.2075
43	.2125
44	.2175
45	.2225
46	.2275
47	.2325
48	.2375
49	.2425
50	.2475
51	.2525
52	.2575
53	.2625
54	.2675
55	.2725
56	.2775
57	.2825
58	.2875
59	.2925
60	.2975
61	220.3025
62	.3075
63	.3125
64	.3175
65	.3225
66	.3275
67	.3325
68	.3375
69	.3425
70	.3475
71	.3525
72	.3575
73	.3625
74	.3675
75	.3725
76	.3775
77	.3825
78	.3875
79	.3925
80	.3975
81	220.4025
82	.4075
83	.4125

84	.4175
85	.4225
86	.4275
87	.4325
88	.4375
89	.4425
90	.4475
91	.4525
92	.4575
93	.4625
94	.4675
95	.4725
96	.4775
97	.4825
98	.4875
99	.4925
100	.4975
101	220.5025
102	.5075
103	.5125
104	.5175
105	.5225
106	.5275
107	.5325
108	.5375
109	.5425
110	.5475
111	.5525
112	.5575
113	.5625
114	.5675
115	.5725
116	.5775
117	.5825
118	.5875
119	.5925
120	.5975
121	220.6025
122	.6075
123	.6125
124	.6175
125	.6225
126	.6275
127	.6325
128	.6375

129	.6425
130	.6475
131	.6525
132	.6575
133	.6625
134	.6675
135	.6725
136	.6775
137	.6825
138	.6875
139	.6925
140	.6975
141	220.7025
142	.7075
143	.7125
144	.7175
145	.7225
146	.7275
147	.7325
148	.7375
149	.7425
150	.7475
151	.7525
152	.7575
153	.7625
154	.7675
155	.7725
156	.7775
157	.7825
158	.7875
159	.7925
160	.7975
161	220.8025
162	.8075
163	.8125
164	.8175
165	.8225
166	.8275
167	.8325
168	.8375
169	.8425
170	.8475
171	.8525
172	.8575
173	.8625

174	.8675
175	.8725
176	.8775
177	.8825
178	.8875
179	.8925
180	.8975
181	220.9025
182	.9075
183	.9125
184	.9175
185	.9225
186	.9275
187	.9325
188	.9375
189	.9425
190	.9475
191	.9525
192	.9575
193	.9625
194	.9675
195	.9725
196	.9775
197	.9825
198	.9875
199	.9925
200	220.9975

(b) The 200 channels are divided into three sub-bands as follows:

Channel No.	Sub-band	Frequencies (MHz)
1-40	A	220.0025-220.1975/221.0025-221.1975
41-160	C	220.2025-220.7975/221.2025-221.7975
161-200	B	220.8025-220.9975/221.8025-221.9975

(c) U.S./Mexico border area.

(1) Channels 16-30, 45-60, 76-90, 106-120, 136-145, 156-165, 178-194 are available for primary use within the United States within 120 km (74.6 mi) of the Mexican border, subject to the power and antenna height conditions specified in Section 90.729 and the use restrictions specified in Sections 90.717- 90.721.

(2) Channels 195-200 are available to both the United States and Mexico in the border area on an unprotected basis. Use is limited to a maximum effective radiated power (ERP) of 2 watts and a maximum antenna height of 6.1 meters (20 ft) above ground.

(3) Channels allotted for primary Mexican use (1-15, 31-45, 61-75, 91-105, 121-135, 146-155, and 166-177) may be used in the border area subject to the condition that the power flux density not exceed-86 dB(W/m/2/) at or beyond any point on the border. Stations operating under this provision will be considered secondary and will not be granted protection from harmful interference from stations that have primary use of the frequencies.

Sec. 90.717 Channels available for nationwide systems in the 220-222 MHz band.

(a) Channels 51-60, 81-90, and 141-150 are 10-channel blocks available to non-Government applicants only for nationwide Phase II systems.
(b) Channels 21-25, 26-30, 151-155, and 156-160 are 5-channel blocks available to non-Government applicants only for nationwide, commercial Phase I systems.
(c) Channels 111-115 and 116-120 are 5-channel blocks available for Government nationwide use only.

Sec. 90.719 Individual channels available for assignment in the 220-222 MHz band.

(a) Channels 171 through 200 are available to both Government and non-Government Phase I applicants, and may be assigned singly or in contiguous channel groups.
(b) Channels 171 through 180 are available for any use by Phase I applicants consistent with this subpart.
(c) Channels 181 through 185 are set aside in Phase II for emergency medical use for applicants that meet the eligibility criteria of Section 90.20(a)(1)(iii) or Section 90.20(a)(2)(xiii).
(d) Channels 161 through 170 and 181 through 185 are the only 220-222 MHz channels available to Phase II non-nationwide, Government users.

Sec. 90.720 Channels available for public safety/mutual aid.

(a) Part 90 licensees who meet the eligibility criteria of Sections 90.20(a)(1), 90.20(a)(2)(i), 90.20(a)(2)(ii), 90.20(a)(2)(iii), 90.20(a)(2)(iv), 90.20(a)(2)(vii), 90.20(a)(2)(ix), or 90.20(a)(2)(xiii) are authorized by this rule to use mobile and/or portable units on Channels 161-170 throughout the United States, its territories, and possessions to transmit:
(1) Communications relating to the immediate safety of life;
(2) Communications to facilitate interoperability among entities eligible under Sections 90.20(a)(1), 90.20(a)(2)(i), 90.20(a)(2)(ii), 90.20(a)(2)(iii), 90.20(a)(2)(iv), 90.20(a)(2)(vii), 90.20(a)(2)(ix), and 90.20(a)(2)(xiii); or
(3) Communications on behalf of and by members of organizations established for disaster relief purposes having an emergency radio communications plan (*i.e.*, licensees eligible under Section 90.20(a)(2)(vii)) for the transmission of communications relating to the safety of life or

property, the establishment and maintenance of temporary relief facilities, and the alleviation of emergency conditions during periods of actual or impending emergency, or disaster, until substantially normal conditions are restored; for limited training exercises incidental to an emergency radio communications plan, and for necessary operational communications of the disaster relief organization or its chapter affiliates.

(b) Any Government entity and any non-Government entity eligible to obtain a license under Sections 90.20(a)(1), 90.20(a)(2)(i), 90.20(a)(2)(ii), 90.20(a)(2)(iii), 90.20(a)(2)(iv), 90.20(a)(2)(vii), 90.20(a)(2)(ix), or 90.20(a)(2)(xiii) is also eligible to obtain a license for base/mobile operations on Channels 161 through 170. Base/mobile or base/portable communications on these channels that do not relate to the immediate safety of life or to communications interoperability among the above-specified entities, may only be conducted on a secondary non-interference basis to such communications.

Sec. 90.721 Other channels available for non-nationwide systems in the 220-222 MHz band.

(a) The channel groups listed in the following Table are available to both Government and non-Government Phase I applicants for trunked operations or operations of equivalent or greater efficiency for non-commercial or commercial operations.

Table 1.--Phase I Trunked Channel Groups

Group No.	Channel Nos.
1	1-31-61-91-121
2	2-32-62-92-122
3	3-33-63-93-123
4	4-34-64-94-124
5	5-35-65-95-125
6	6-36-66-96-126
7	7-37-67-97-127
8	8-38-68-98-128
9	9-39-69-99-129
10	10-40-70-100-130
11	11-41-71-101-131
12	12-42-72-102-132
13	13-43-73-103-133
14	14-44-74-104-134
15	15-45-75-105-135
16	16-46-76-106-136
17	17-47-77-107-137
18	18-48-78-108-138

19	19-49-79-109-139
20	20-50-80-110-140

(b) The channels listed in the following Table are available to non-Government applicants for Phase II assignments in Economic Areas (EAs) and Regional Economic Area Groupings (REAGs) (see Sections 90.761 and 90.763).

Table 2.--Phase II EA and Regional Channel Assignments

Assignment	Assignment area	Group Nos. (from table 1)	Channel Nos.
A	EA	2 and 13	
B	EA	3 and 16	
C	EA	5 and 18	
D	EA	8 and 19	
E	EA		171-180
F	REAG 1, 6, and 11		
G	REAG 4, 9, and 14		
H	REAG 7, 12, and 17		
I	REAG 10, 15, and 20		
J	REAG		186-200

Sec. 90.723 Selection and assignment of frequencies.

(a) Phase II applications for frequencies in the 220-222 MHz band shall specify whether their intended use is for 10-channel nationwide systems, 10-channel EA systems, 15-channel Regional systems, public safety/mutual aid use, or emergency medical use. Phase II applicants for frequencies for public safety/mutual aid use or emergency medical use shall specify the number of frequencies requested. All frequencies in this band will be assigned by the Commission.

(b) Phase II channels will be assigned pursuant to Sections 90.717, 90.719, 90.720, 90.721, 90.761 and 90.763.

(c) Phase II applicants for public safety/mutual aid and emergency medical channels will be assigned only the number of channels justified to meet their requirements.

(d) Phase I base or fixed station receivers utilizing 221-222 MHz frequencies assigned from Sub-band A as designated in Section 90.715(b) will be geographically separated from those Phase I base or fixed station transmitters utilizing 220-221 MHz frequencies removed 200 kHz or less and assigned from Sub-band B as follows:

Geographic Separation of Sub-Band A; Base or Fixed Station Receivers and Sub-Band B; Base or Fixed Station Transmitters Effective

Separation distance (kilometers)	Radiated power (watts) /1/
0.0-0.3	(/2/)
0.3-0.5	5
0.5-0.6	10
0.6-0.8	20
0.8-2.0	25
2.0-4.0	50
4.0-5.0	100
5.0-6.0	200
Over 6.0	500

/1/ Transmitter peak envelope power shall be used to determine effective radiated power.

/2/ Stations separated by 0.3 km or less shall not be authorized. This table does not apply to the low-power channels 196-200. See Section 90.729(c).

(e) Phase II licensees authorized on 220-221 MHz frequencies assigned from Sub-band B will be required to geographically separate their base station or fixed station transmitters from the base station or fixed station receivers of Phase I licensees authorized on 221-222 MHz frequencies 200 kHz removed or less in Sub-band A in accordance with the Table in paragraph (d) of this section. Such Phase II licensees will not be required to geographically separate their base station or fixed station transmitters from receivers associated with additional transmitter sites that are added by such Phase I licensees in accordance with the provisions of Section 90.745(a).

(f) Phase II licensees with base or fixed stations transmitting on 220-221 MHz frequencies assigned from Sub-band B and Phase II licensees with base or fixed stations receiving on Sub-band A 221-222 MHz frequencies, if such transmitting and receiving frequencies are 200 kHz or less removed from one another, will be required to coordinate the location of their base stations or fixed stations to avoid interference and to cooperate to resolve any instances of interference in accordance with the provisions of Section 90.173(b).

(g) Phase I licensees with base or fixed stations transmitting on 220-221 MHz frequencies assigned from Sub-band B and Phase I licensees with base or fixed stations receiving on Sub-band

A 221-222 MHz frequencies (if such transmitting and receiving frequencies are 200 kHz or less removed from one another) that add, remove, or modify station sites in accordance with the provisions of Section 90.745(a) will be required to coordinate such actions with one another to avoid interference and to cooperate to resolve any instances of interference in accordance with the provisions of Section 90.173(b).

(h) Phase I licensees with base or fixed stations transmitting on 220-221 MHz frequencies assigned from Sub-band B that add, remove, or modify station sites in accordance with the provisions of Section 90.745(a) will be required to coordinate such actions with Phase II licensees with base or fixed stations receiving on Sub-band A 221-222 MHz frequencies 200 kHz or less removed.

(i) A mobile station is authorized to transmit on any frequency assigned to its associated base station. Mobile units not associated with base stations (*see* Section 90.720(a)) must operate on “mobile” channels.

(j) A licensee's fixed station is authorized to transmit on any of the licensee's assigned base station frequencies or mobile station frequencies.

(k) Except for nationwide assignments, the separation of co-channel Phase I base stations, or fixed stations transmitting on base station frequencies, shall be 120 kilometers. Except for Phase I licensees seeking license modification in accordance with the provisions of Sections 90.751 and 90.753, shorter separations between such stations will be considered by the Commission on a case-by-case basis upon submission of a technical analysis indicating that at least 10 dB protection will be provided to an existing Phase I station's predicted 38 dBu signal level contour. The existing Phase I station's predicted 38 dBu signal level contour shall be calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10) of this chapter, with a 9 dB correction factor for antenna height differential. The 10 dB protection to the existing Phase I station's predicted 38 dBu signal level contour shall be calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10a) of this chapter, with a 9 dB correction factor for antenna height differential.

Sec . 90.725 Construction requirements for Phase I licensees.

(a) Licensees granted commercial nationwide authorizations will be required to construct base stations having a minimum of five assigned nationwide channels and place those base stations in operation as follows:

(1) In at least 10 percent of the geographic areas designated in the application within two years of initial license grant, including base stations in at least seven urban areas listed in Section 90.741 of this part;

(2) In at least 40 percent of the geographic areas designated in the application within four years of initial license grant, including base stations in at least 28 urban areas listed in Section 90.741 of this part;

(3) In at least 70 percent of the geographic areas designated in the application within six years of initial license grant, including base stations in at least 28 urban areas listed in Section 90.741 of this part;

(4) In all geographic areas designated in the application within ten years of initial license grant, including base stations in at least 28 urban areas listed in Section 90.741 of this part.

(b) Licensees not meeting the two and four year criteria shall lose the entire authorization, but will be permitted a six month period to convert the system to non-nationwide channels, if such channels are available.

(c) Licensees not meeting the six and ten year criteria shall lose the authorizations for the facilities not constructed, but will retain exclusivity for constructed facilities.

(d) Each commercial nationwide licensee must file a system progress report on or before the anniversary date of the grant of its license after 2, 4, 6 and 10 years, demonstrating compliance with the relevant construction benchmark criteria.

(1) An overall status report of the system, that must include, but need not be limited to:

(i) A list of all sites at which base stations have been constructed, with antenna heights and effective radiated power specified for each site;

(ii) A list of all other known base station sites at which construction has not been completed; and

(iii) A construction and operational schedule for the next five-year period, including any known changes to the plan for construction and operation submitted with the licensee's original application for the system.

(2) An analysis of the system's compliance with the requirements of paragraph (a) of this section, with documentation to support representations of completed construction, including, but not limited to:

(i) Equipment purchase orders and contracts;

(ii) Lease or purchase contracts relating to antenna site arrangements;

(iii) Equipment and antenna identification (serial) numbers; and

(iv) Service agreements and visits.

(e) Beginning with its second license term, each nationwide licensee must file a progress report once every five years on the anniversary date of the grant of the first renewal of its authorization, including the information required by paragraph (d)(1) of this section.

(f) Licensees authorized Phase I non-nationwide systems, or authorized on Channels 161 through 170 or Channels 181 through 185, must construct their systems (*i.e.*, have all specified base stations constructed with all channels) and place their systems in operation, or commence service in accordance with the provisions of Section 90.167, within twelve months of the initial license grant date. Authorizations for systems not constructed and placed in operation, or having commenced service, within twelve months from the date of initial license grant cancel automatically.

(g) A licensee that loses authorization for some or all of its channels due to failure to meet construction deadlines or benchmarks may not reapply for nationwide channels in the same category or for non-nationwide channels in the same category in the same geographic area for one year from the date the Commission takes final action affirming that those channels have been cancelled.

(h) The requirements and conditions of paragraphs (a) through (e) and paragraph (g) of this section apply to nationwide licensees that construct and operate stations for fixed or paging operations on a primary basis instead of, or in addition to, stations for land mobile operations on a primary basis except that, in satisfying the base station construction and placed in operation requirements of paragraph (a) of this section and the system progress report requirements of paragraphs (d) and (e) of this section, licensees operating stations for fixed operation on a primary basis instead of, or in addition to, stations for land mobile or paging operations on a primary basis

in a given geographic area may demonstrate how such fixed stations are providing substantial service to the public in those geographic areas.

Sec. 90.727 Extended implementation schedules for Phase I licensees.

Except for nationwide and commercial systems, a period of up to three (3) years may be authorized for constructing and placing a system in operation if:

(a) The applicant submits justification for an extended implementation period. The justification must include reasons for requiring an extended construction period, the proposed construction schedule (with milestones), and must show either that:

(1) The proposed system will serve a large fleet of mobile units and will involve a multi-year cycle for its planning, approval, funding, purchase, and construction; or

(2) The proposed system will require longer than eight months to place in operation because of its purpose, size, or complexity; or

(3) The proposed system is to be part of a coordinated or integrated area-wide system which will require more than eight months to construct; or

(4) The applicant is a local governmental agency and demonstrates that the government involved is required by law to follow a multi-year cycle for planning, approval, funding, and purchasing the proposed system.

(b) Authorizations under this section are conditioned upon the licensee's compliance with the submitted extended implementation schedule. Failure to meet the schedule will result in loss of authorizations for facilities not constructed.

Sec. 90.729 Limitations on power and antenna height.

(a) The permissible effective radiated power (ERP) with respect to antenna heights for land mobile, paging, or fixed stations transmitting on frequencies in the 220-221 MHz band shall be determined from the following Table. These are maximum values and applicants are required to justify power levels requested.

ERP vs. Antenna Height Table /2/

Antenna height above average terrain (HAAT), meters	Effective radiated power, watts /1/
Up to 150	500
150 to 225	250
225 to 300	125

300 to 450	60
450 to 600	30
600 to 750	20
750 to 900	15
900 to 1050	10
Above 1050	5

/1/ Transmitter PEP shall be used to determine ERP.

/2/ These power levels apply to stations used for land mobile, paging, and fixed operations.

(b) The maximum permissible ERP for mobile units is 50 watts. Portable units are considered as mobile units. Licensees operating fixed stations or paging base stations transmitting on frequencies in the 221-222 MHz band may not operate such fixed stations or paging base stations at power levels greater than 50 watts ERP, and may not transmit from antennas that are higher than 7 meters above average terrain, except that transmissions from antennas that are higher than 7 meters above average terrain will be permitted if the effective radiated power of such transmissions is reduced below 50 watts ERP by 20 $\log_{10}(h/7)$ dB, where h is the height above average terrain (HAAT), in meters.

(c) Base station and fixed station transmissions on base station transmit Channels 196-200 are limited to 2 watts ERP and a maximum antenna HAAT of 6.1 meters (20 ft). Licensees authorized on these channels may operate at power levels above 2 watts ERP or with a maximum antenna HAAT greater than 6.1 meters (20 ft) if:

(1) They obtain the concurrence of all Phase I and Phase II licensees with base stations or fixed stations receiving on base station receive Channels 1-40 and located within 6 km of their base station or fixed station; and

(2) Their base station or fixed station is not located in the United States/Mexico or United States/Canada border areas.

Sec. 90.733 Permissible operations.

(a) Systems authorized in the 220-222 MHz band may be used:

(1)(i) For government and non-government land mobile operations, *i.e.*, for base/mobile and mobile relay transmissions, on a primary basis; or

(ii) For the following operations instead of or in addition to a licensee's land mobile operations: One-way or two-way paging operations on a primary basis by all non-Government Phase II licensees, fixed operations on a primary basis by all non-Government Phase II licensees and all Government licensees, one-way or two-way paging or fixed operations on a primary basis by all non-Government Phase I licensees, except that before a non-Government Phase I licensee may operate one-way or two-way paging or fixed systems on a primary basis instead of or in addition to its land mobile operations, it must meet the following requirements:

(A) A nationwide Phase I licensee must;

(1) Meet its two-year benchmark for the construction of its land mobile system base stations as prescribed in Section 90.725(a); and

(2) Provide a new 10-year schedule, as required in Section 90.713(b)(3), for the construction of the fixed and/or paging system it intends to construct instead of, or in addition to, its nationwide land mobile system; and

(3) Certify that the financial showings and all other certifications provided in demonstrating its ability to construct and operate its nationwide land mobile system, as required in Sections 90.713 (b), (c) and (d), remain applicable to the nationwide system it intends to construct consisting of fixed and/or paging operations on a primary basis instead of, or in addition to, its land mobile operations; or

(4) In lieu of providing the requirements of paragraph (a)(1)(ii)(A)(3) of this section, provide the financial showings and all other certifications required in Sections 90.713 (b), (c) and (d) to demonstrate its ability to construct and operate a nationwide system consisting of fixed and/or paging operations on a primary basis instead of, or in addition to, its land mobile operations.

(B) A non-nationwide Phase I licensee must first meet the requirement to construct its land mobile base station and place it in operation, or commence service (in accordance with Section 90.167) as prescribed in Section 90.725(f) or Section 90.727, as applicable.

(2) Only by persons who are eligible for facilities under either this subpart or in the pools included in subpart B or C of this part.

(3) Except for licensees classified as CMRS providers under Part 20 of this chapter, only for the transmission of messages or signals permitted in the services in which the participants are eligible.

(b) See Section 90.720 of this part for permissible operations on mutual aid channels.

(c) For operations requiring less than a 4 kHz bandwidth, more than a single emission may be utilized within the authorized bandwidth. In such cases, the frequency stability requirements of Section 90.213 do not apply, but the out-of-band emission limits of Section 90.210(f) must be met.

(d) Licensees, except for licensees authorized on Channels 161 through 170 and 181 through 185, may combine any number of their authorized, contiguous channels (including channels derived from multiple authorizations) to form channels wider than 5 kHz.

(e) In combining authorized, contiguous channels (including channels derived from multiple authorizations) to form channels wider than 5 kHz, the emission limits in Section 90.210(f) must be met only at the outermost edges of the contiguous channels. Transmitters shall be tested to confirm compliance with this requirement with the transmission located as close to the band edges as permitted by the design of the transmitter. The frequency stability requirements in Section 90.213 shall apply only to the outermost of the contiguous channels authorized to the licensee. However, the frequency stability employed for transmissions operating inside the outermost contiguous channels must be such that the emission limits in Section 90.210(f) are met over the temperature and voltage variations prescribed in Section 2.995 of this chapter.

(f) A Phase I non-nationwide licensee operating a paging base station, or a fixed station transmitting on frequencies in the 220-221 MHz band, may only operate such stations at the coordinates of the licensee's authorized land mobile base station.

(g) The transmissions of a Phase I non-nationwide licensee's paging base station, or fixed station transmitting on frequencies in the 220-221 MHz band, must meet the requirements of

Sections 90.723(d), (g), (h), and (k), and 90.729, and such a station must operate at the effective radiated power and antenna height-above-average-terrain prescribed in the licensee's land mobile base station authorization.

(h) Licensees using 220-222 MHz spectrum for geophysical telemetry operations are authorized to operate fixed stations on a secondary, non-interference basis to licensees operating in the 220-222 MHz band on a primary basis under the conditions that such licensees:

(1) Provide notification of their operations to co-channel non-nationwide Phase I licensees with an authorized base station, or fixed station transmitting on frequencies in the 220-221 MHz band, located within 45 km of the secondary licensee's station, to co-channel, Phase II EA or Regional licensee authorized to operate in the EA or REAG in which the secondary licensee's station is located, and to co-channel Phase I or Phase II nationwide licensees;

(2) Operate only at temporary locations in accordance with the provisions of Section 90.137;

(3) Not transmit at a power level greater than one watt ERP;

(4) Not transmit from an antenna higher than 2 meters (6.6 feet) above ground; and

(5) Not operate on Channels 111 through 120, 161 through 170, or 181 through 185.

(i) All licensees constructing and operating base stations or fixed stations on frequencies in the 220-222 MHz band must:

(1) Comply with any rules and international agreements that restrict use of their authorized frequencies, including the provisions of Section 90.715 relating to U.S./Mexican border areas;

(2) Comply with the provisions of Section 17.6 of this chapter with regard to antenna structures; and

(3) Comply with the provisions of Sections 1.1301 through 1.1319 of this chapter with regard to actions that may or will have a significant impact on the quality of the human environment.

Sec. 90.735 Station identification.

(a) Except for nationwide systems authorized in the 220-222 MHz band, station identification is required pursuant to Section 90..425 of this part.

(b) Trunked systems shall employ an automatic device to transmit the call sign of the base station at 30 minute intervals. The identification shall be made on the lowest frequency in the base station trunked group assigned to the licensee. If this frequency is in use at the time identification is required, the identification may be made at the termination of the communication in progress on this frequency.

(c) Station identification may be by voice or International Morse Code. If the call sign is transmitted in International Morse Code, it must be at a rate of between 15 to 20 words per minute, and by means of tone modulation of the transmitter, with the tone frequency being between 800 and 1000 hertz.

(d) Digital transmissions may also be identified by digital transmission of the station call sign. A licensee that identifies its station in this manner must provide the Commission, upon its request, information (such as digital codes and algorithms) sufficient to decipher the data transmission to ascertain the call sign transmitted.

Sec. 90.737 Supplemental reports required of Phase I licensees.

(a) Licensees of nationwide systems must submit progress reports pursuant to Section 90.725(d) of this part.

(b) Licensees offering service on a commercial basis must maintain records of the names and addresses of each customer and the dates that service commenced and terminated. These records must be made available to the Commission upon request. Such licensees must report at the time of license renewal the number of mobile units being served.

(c) Non-commercial trunked system licensees must report at the time of license renewal the number of mobile units being served.

(d) Except for licensees of nationwide systems, all licensees must report whether construction of the facility has been completed within eight months of the date of initial grant of their respective licenses.

(e) All reports must be filed with the Land Mobile Branch, Licensing Division, Wireless Telecommunications Bureau, Gettysburg, PA 17326.

Sec. 90.739 Number of systems authorized in a geographical area.

There is no limit on the number of licenses that may be authorized to a single licensee.

Sec. 90.741 Urban areas for Phase I nationwide systems.

Licensees of Phase I nationwide systems must construct base stations, or fixed stations transmitting on frequencies in the 220-221 MHz band, in a minimum of 28 of the urban areas listed in the following Table within ten years of initial license grant. A base station, or fixed station, is considered to be within one of the listed urban areas if it is within 60 kilometers (37.3 miles) of the specified coordinates.

Table

Urban Area	North latitude	West longitude
	o ' "	o ' "
New York, New York--Northeastern New Jersey	40 45 06	73 59 39
Los Angeles-Long Beach, California	34 03 15	118 14 28
Chicago, Illinois--Northwestern Indiana	41 52 28	87 38 22
Philadelphia, Pennsylvania/New Jersey	39 56 58	75 09 21
Detroit, Michigan	42 19 48	83 02 57
Boston, Massachusetts	42 21 24	71 03 25
San Francisco-Oakland, California	37 46 39	122 24 40
Washington, DC/Maryland/Virginia	38 53 51	77 00 33
Dallas-Fort Worth, Texas	32 47 09	96 47 37
Houston, Texas	29 45 26	95 21 37
St. Louis, Missouri/Illinois	38 37 45	90 12 22

Miami, Florida				25	46	37		80	11	32
Pittsburgh, Pennsylvania	40	26	19				80	00	00	
Baltimore, Maryland				39	17	26		76	36	45
Minneapolis-St. Paul, Minnesota	44	58	57				93	15	43	
Cleveland, Ohio				41	29	51		81	41	50
Atlanta, Georgia				33	45	10		84	23	37
San Diego, California				32	42	53		117	09	21
Denver, Colorado	39	44	58				104	59	22	
Seattle-Everett, Washington				47	36	32		122	20	12
Milwaukee, Wisconsin				43	02	19		87	54	15
Tampa, Florida				27	56	58		82	27	25
Cincinnati, Ohio/Kentucky				39	06	07		84	30	35
Kansas City, Missouri/Kansas				39	04	56		94	35	20
Buffalo, New York				42	52	52		78	52	21
Phoenix, Arizona	33	27	12				112	04	28	
San Jose, California				37	20	16		121	53	24
Indianapolis, Indiana				39	46	07		86	09	46
New Orleans, Louisiana				29	56	53		90	04	10
Portland, Oregon/Washington				45	31	06		122	40	35
Columbus, Ohio				39	57	47		83	00	17
Hartford, Connecticut				41	46	12		72	40	49
San Antonio, Texas				29	25	37		98	29	06
Rochester, New York				43	09	41		77	36	21
Sacramento, California				38	34	57		121	29	41
Memphis, Tennessee/Arkansas/Mississippi				35	08	46		90	03	13
Louisville, Kentucky/Indiana				38	14	47		85	45	49
Providence-Pawtucket-Warwick, RI/MA	41	49	32				71	24	41	
Salt Lake City, Utah				40	45	23		111	53	26
Dayton, Ohio				39	45	32		84	11	43
Birmingham, Alabama				33	31	01		86	48	36
Bridgeport, Connecticut				41	10	49		73	11	22
Norfolk-Portsmouth, Virginia				36	51	10		76	17	21
Albany-Schenectady-Troy, New York				42	39	01		73	45	01
Oklahoma City, Oklahoma				35	28	26		97	31	04
Nashville-Davidson, Tennessee				36	09	33		86	46	55
Toledo, Ohio/Michigan				41	39	14		83	32	39
New Haven, Connecticut	41	18	25				72	55	30	
Honolulu, Hawaii	21	19	00				157	52	00	
Jacksonville, Florida				30	19	44		81	39	42
Akron, Ohio				41	05	00		81	30	44
Syracuse, New York				43	03	04		76	09	14
Worcester, Massachusetts	42	15	37				71	48	17	
Tulsa, Oklahoma				36	09	12		95	59	34
Allentown-Bethlehem-Easton, PA/NJ				40	36	11		75	28	06
Richmond, Virginia				37	32	15		77	26	09

Orlando, Florida			28	32	42			81	22	38
Charlotte, North Carolina	35	13	44			80	50	45		
Springfield-Chicopee-Holyoke, MA/CT	42	06	21			72	35	32		
Grand Rapids, Michigan	42	58	03			85	40	13		
Omaha, Nebraska/Iowa			41	15	42			95	56	14
Youngstown-Warren, Ohio			41	05	57			80	39	02
Greenville, South Carolina			34	50	50			82	24	01
Flint, Michigan			43	00	50			83	41	33
Wilmington, Delaware/New Jersey/Maryland			39	44	46			75	32	51
Raleigh-Durham/North Carolina	35	46	38			78	38	21		
West Palm Beach, Florida	26	42	36			80	03	07		
Oxnard-Simi Valley-Ventura, California	34	12	00			119	11	00		
Fresno, California	36	44	12			119	47	11		
Austin, Texas			30	16	09			97	44	37
Tucson, Arizona			32	13	15			110	58	08
Lansing, Michigan	42	44	01			84	33	15		
Knoxville, Tennessee			35	57	39			83	55	07
Baton Rouge, Louisiana			30	26	58			91	11	00
El Paso, Texas			31	45	36			106	29	11
Tacoma, Washington			47	14	59			122	26	15
Mobile, Alabama	30	41	36			88	02	33		
Harrisburg, Pennsylvania	40	15	43			76	52	59		
Albuquerque, New Mexico			35	05	01			106	39	05
Canton, Ohio			40	47	50			81	22	37
Chattanooga, Tennessee/Georgia	35	02	41			85	18	32		
Wichita, Kansas			37	41	30			97	20	16
Charleston, South Carolina			32	46	35			79	55	53
San Juan, Puerto Rico			18	28	00			66	07	00
Little Rock-North Little Rock, Arkansas	34	44	42			92	16	37		
Las Vegas, Nevada			36	10	20			115	08	37
Columbia, South Carolina	34	00	02			81	02	00		
Fort Wayne, Indiana			41	04	21			85	08	26
Bakersfield, California			35	22	31			119	01	16
Davenport-Rock Island-Moline, IA/IL			41	31	00			90	35	00
Shreveport, Louisiana			32	30	46			93	44	58
Des Moines, Iowa	41	35	14			93	37	00		
Peoria, Illinois			40	41	42			89	35	33
Newport News-Hampton, Virginia			36	59	30			76	26	00
Jackson, Mississippi			32	17	56			90	11	06
Augusta, Georgia/South Carolina	33	28	20			81	58	00		
Spokane, Washington			47	39	32			117	25	33
Corpus Christi, Texas			27	47	51			97	23	45
Madison, Wisconsin			43	04	23			89	22	55
Colorado Springs, Colorado			38	50	07			104	49	16

Note: The geographic coordinates given are from the Department of Commerce publication of 1947: "Air-line Distances Between Cities in the United States" and from data supplied by the National Geodetic Survey. The coordinates are determined by using the first city mentioned as the center of the urban area.

Sec. 90.743 Renewal expectancy.

(a) All licensees seeking renewal of their authorizations at the end of their license term must file a renewal application in accordance with the provisions of Section 90.149. Licensees must demonstrate, in their application, that:

(1) They have provided "substantial" service during their past license term. "Substantial" service is defined in this rule as service that is sound, favorable, and substantially above a level of mediocre service that just might minimally warrant renewal; and

(2) They have substantially complied with applicable FCC rules, policies, and the Communications Act of 1934, as amended.

(b) In order to establish its right to a renewal expectancy, a renewal applicant must submit a showing explaining why it should receive a renewal expectancy. At a minimum, this showing must include:

(1) A description of its current service in terms of geographic coverage and population served;

(2) For an EA, Regional, or nationwide licensee, an explanation of its record of expansion, including a timetable of the construction of new stations to meet changes in demand for service;

(3) A description of its investments in its system;

(4) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and

(5) A list of any pending proceedings that relate to any matter described in this paragraph.

(c) Phase I non-nationwide licensees have license terms of 5 years, and therefore must meet these requirements 5 years from the date of initial authorization in order to receive a renewal expectancy. Phase I nationwide licensees and all Phase II licensees have license terms of 10 years, and therefore must meet these requirements 10 years from the date of initial authorization in order to receive a renewal expectancy.

Sec. 90.745 Phase I licensee service areas.

(a) A Phase I licensee's service area shall be defined by the predicted 38 dBu service contour of its authorized base station or fixed station transmitting on frequencies in the 220-221 MHz band at its initially authorized location or at the location authorized in accordance with §§ 90.751, 90.753, 90.755 and 90.757 if the licensee has sought modification of its license to relocate its initially authorized base station. The Phase I licensee's predicted 38 dBu service contour is calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10) of this chapter, with a 9 dB correction factor for antenna height differential, and is based on the authorized effective radiated power (ERP) and antenna height-above-average-terrain of the licensee's base station or fixed station. Phase I licensees are permitted to add, remove, or modify transmitter sites within their existing service area without prior notification to the Commission so

long as their predicted 38 dBu service contour is not expanded. The incumbent licensee must, however, notify the Commission within 30 days of the completion of any changes in technical parameters or additional stations constructed through a minor modification of its license. Such notification must be made by submitting the appropriate FCC form and must include the appropriate filing fee, if any. These minor modification applications are not subject to public notice and petition to deny requirements or mutually exclusive applications.

(b) Phase I licensees holding authorizations for service areas that are contiguous and overlapping may exchange these authorizations for a single license, authorizing operations throughout the contiguous and overlapping service areas. Phase I licensees exercising this license exchange option must submit specific information for each of their external base station sites.

Sec. 90.751 Minor modifications of Phase I, non-nationwide licenses.

Phase I non-nationwide licensees will be given an opportunity to seek modification of their license to relocate their initially authorized base station, *i.e.*, locate their base station at a site other than its initially authorized location. The conditions under which modifications will be granted and the procedures for applying for license modifications are described in Sections 90.753, 90.755, and 90.757. For CMRS licensees, these modifications will be treated as minor modifications in accordance with Section 90.164.

Sec. 90.753 Conditions of license modification.

(a) Except as provided in paragraphs (b), and (c) of this section, a Phase I non nationwide licensee may modify its authorization to relocate its authorized base station up to one-half the distance over 120 km toward any co-channel licensee's initially authorized base station, to a maximum distance of 8 km.

(b) A Phase I non-nationwide licensee with an authorized base station located outside a Designated Filing Area (DFA) (see Public Notice, DA 86-173, 52 FR 1302 (January 12, 1987)) may modify its authorization to relocate its authorized base station up to one-half the distance over 120 km toward any co-channel licensee's initially authorized base station, to a maximum distance of 25 km, so long as the base station is relocated no more than 8 km inside of any DFA (*i.e.*, no more than 8 km from the nearest DFA boundary line).

(c) A Phase I non-nationwide licensee that has been granted Special Temporary Authority (STA) to operate at an alternative base station location may modify its authorization to seek permanent authorization at that location, regardless of whether locating the station at the STA site is in strict conformance with the provisions of paragraphs (a) and (b) of this section, if the licensee certifies that such a modification is in conformance with Sections 90.723 and 90.729 and:

(1) It has constructed its base station and has placed it in operation, or commenced service, at the STA site on or before January 26, 1996; or

(2) It has taken delivery of its base station transceiver on or before January 26, 1996.

(d) The application of a Phase I non-nationwide licensee proposing a base station modification resulting in less than 120 km separation from a co-channel licensee's initially authorized base station will be accepted by the Commission only with the consent of that co-channel licensee, as

evidenced in a letter submitted concurrently with the licensee's application.

(e) The application of a Phase I non-nationwide licensee proposing a base station modification resulting in at least a 120 km separation from each co-channel licensee's initially authorized base station but more than one-half the distance over 120 km toward any co-channel licensee's initially authorized base station will be accepted by the Commission only with the consent of that co-channel licensee, as evidenced in a letter submitted concurrently with the licensee's application.

Sec. 90.755 Procedures for License Modification.

(a) A Phase I non-nationwide licensee seeking modification of its authorization to relocate its authorized base station in accordance with the provisions of Section 90.753 must file the following on or before May 1, 1996:

(1) Form 600 requesting license modification, and providing all applicable information;

(2) Certification that the location of its proposed base station is in conformance with the provisions of Section 90.753, or, as provided in Section 90.753(d), a letter evidencing consent of a co-channel licensee that the licensee may be authorized less than 120 km from the co-channel licensee;

(3) If applicable, the required certification by a licensee with a Special Temporary Authority, in accordance with Section 90.753(c);

(4) If applicable, certification that the licensee has constructed its base station and placed it in operation, or commenced service, at its initially authorized location on or before March 11, 1996.

(b) A licensee seeking modification of its authorization to relocate its base station in accordance with the provisions of Section 90.753, should file, on or before March 11, 1996, either a modification application, as provided in paragraph (a) of this section, or a letter certifying to the Commission its intent to file an application to modify its authorization to relocate its base station. For a licensee that has not constructed its authorized base station and placed it in operation, or commenced service, by March 11, 1996, this filing will serve to extend the licensee's construction requirement in accordance with the provisions of Section 90.757.

Sec. 90.757 Construction requirements.

(a) Except as provided in paragraph (b) of this section, a Phase I non-nationwide licensee that is granted modification of its authorization to relocate its base station must construct its base station and place it in operation, or commence service, on all authorized channels on or before August 15, 1996, or within 12 months of initial grant date, whichever is later. The authorization of a licensee that does not construct its base station and place it in operation, or commence service, by this date, cancels automatically and must be returned to the Commission.

(b) A Phase I non-nationwide licensee with a base station authorized at a location north of Line A must construct its base station and place it in operation, or commence service, on all authorized channels within 12 months of initial grant date, or within 12 months of the date of the release of the terms of an agreement between the United States and Canadian governments on the sharing of 220-222 MHz spectrum between the two countries, whichever is later. The authorization of a licensee that does not construct its base station and place it in operation, or commence service, by

this date, cancels automatically and must be returned to the Commission.

Sec. 90.761 EA and Regional licenses.

(a) EA licenses for spectrum blocks listed in Table 2 of Section 90.721(b) are available in 175 Economic Areas (EAs) as defined in Section 90.7.

(b) Regional licenses for spectrum blocks listed in Table 2 of Section 90.721(b) are available in six Regional Economic Area Groupings (REAGs) as defined in Section 90.7.

Sec. 90.763 EA, Regional and Nationwide system operations.

(a) A nationwide licensee authorized pursuant to Section 90.717(a) may construct and operate any number of land mobile or paging base stations, or fixed stations, anywhere in the Nation, and transmit on any of its authorized channels, provided that the licensee complies with the requirements of Section 90.733(i).

(b) An EA or Regional licensee authorized pursuant to Section 90.761 may construct and operate any number of land mobile or paging base stations, or fixed stations, anywhere within its authorized EA or REAG, and transmit on any of its authorized channels, provided that:

(1) The licensee affords protection to all authorized co-channel Phase I non-nationwide base stations as follows:

(i) The EA or Regional licensee must locate its land mobile or paging base stations, or fixed stations transmitting on base station transmit frequencies, at least 120 km from the land mobile or paging base stations, or fixed stations transmitting on base station transmit frequencies, of co-channel Phase I licensees, except that separations of less than 120 km shall be considered on a case-by-case basis upon submission by the EA or Regional licensee of:

(A) A technical analysis demonstrating at least 10 dB protection to the predicted 38 dBu service contour of the co-channel Phase I licensee, *i.e.*, demonstrating that the predicted 28 dBu interfering contour of the EA or Regional licensee's base station or fixed station does not overlap the predicted 38 dBu service contour of the co-channel Phase I licensee's base station or fixed station; or

(B) A written letter from the co-channel Phase I licensee consenting to a separation of less than 120 km, or to less than 10 dB protection to the predicted 38 dBu service contour of the licensee's base station or fixed station.

(ii) The Phase I licensee's predicted 38 dBu service contour referred to in paragraph (a)(1)(i) of this section is calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10) of this chapter, with a 9 dB correction factor for antenna height differential, and is based on the licensee's authorized effective radiated power and antenna height-above-average-terrain. The EA or Regional licensee's predicted 28 dBu interfering contour referred to in paragraph (a)(1)(i) of this section is calculated using the F(50,10) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10a) of this chapter, with a 9 dB correction factor for antenna height differential.

(2) The licensee complies with the requirements of Section 90.733(i).

(3) The licensee limits the field strength of its base stations, or fixed stations operating on base

station transmit frequencies, in accordance with the provisions of Section 90.771.

(4) The licensee notifies the Commission within 30 days of the completion of the addition, removal, relocation or modification of any of its facilities within its authorized area of operation. Such notification must be made by submitting an FCC Form 600, and must include the appropriate filing fee, if any.

(c) In the event that the authorization for a co-channel Phase I base station, or fixed station transmitting on base station transmit frequencies, within an EA or Regional licensee's border is terminated or revoked, the EA or Regional licensee's channel obligations to such stations will cease upon deletion of the facility from the Commission's official licensing records, and the EA or Regional licensee then will be able to construct and operate without regard to the previous authorization.

Sec. 90.765 Licenses term for Phase II licenses.

Nationwide licenses authorized pursuant to Section 90.717(a), EA and Regional licenses authorized pursuant to Section 90.761, and non-nationwide licenses authorized pursuant to Sections 90.720 and 90.719(c) will be issued for a term not to exceed ten years.

Sec. 90.767 Construction and implementation of EA and Regional licenses.

(a) An EA or Regional licensee must construct a sufficient number of base stations (*i.e.*, base stations for land mobile and/or paging operations) to provide coverage to:

(1) At least one-third of the population of its EA or REAG within five years of the issuance of its initial license; and

(2) At least two-thirds of the population of its EA or REAG within ten years of the issuance of its initial license.

(b) EA and Regional licensees offering fixed services as part of their system, and EA and Regional licensees that have one or more incumbent, co-channel Phase I licensees authorized within their EA or REAG may meet the construction requirements of paragraph (a) of this section by demonstrating an appropriate level of substantial service at their five- and ten-year benchmarks.

(c) Licensees must submit maps or other supporting documents to demonstrate compliance with the construction requirements of paragraphs (a) and (b) of this section.

(d) Failure by an EA or Regional licensee to meet the construction requirements of paragraph (a) or (b) of this section, as applicable, will result in automatic cancellation of its entire EA or Regional license. In such instances, EA or Regional licenses will not be converted to individual, site-by-site authorizations for already constructed stations.

(e) EA and Regional licensees will not be permitted to count the resale of the services of other providers in their EA or REAG, *e.g.*, incumbent, Phase I licensees, to meet the construction requirement of paragraph (a) or (b) of this section, as applicable.

(f) EA and Regional licensees will not be required to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

Sec. 90.769 Construction and implementation of Phase II nationwide licenses.

(a) A nationwide licensee must construct a sufficient number of base stations (*i.e.*, base stations for land mobile and/or paging operations) to provide coverage to:

(1) A composite area of at least 750,000 square kilometers or 37.5 percent of the United States population within five years of the issuance of its initial license; and

(2) A composite area of at least 1,500,000 square kilometers or 75 percent of the United States population within ten years of the issuance of its initial license.

(b) Nationwide licensees offering fixed services as part of their system may meet the construction requirements of paragraph (a) of this section by demonstrating an appropriate level of substantial service at their five- and ten-year benchmarks.

(c) Licensees must submit maps or other supporting documents to demonstrate compliance with the construction requirements of paragraphs (a) and (b) of this section.

(d) Failure by a nationwide licensee to meet the construction requirements of paragraphs (a) or (b) of this section, as applicable, will result in automatic cancellation of its entire nationwide license. In such instances, nationwide licenses will not be converted to individual, site-by-site authorizations for already constructed stations.

(e) Nationwide licensees will not be required to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

Sec. 90.771 Field strength limits.

(a) The transmissions from base stations, or fixed stations transmitting on base station transmit frequencies, of EA and Regional licensees may not exceed a predicted 38 dBu field strength at their EA or REAG border. The predicted 38 dBu field strength is calculated using the F(50,50) field strength chart for Channels 7-13 in Section 73.699 (Fig. 10) of this chapter, with a 9 dB correction factor for antenna height differential.

(b) Licensees will be permitted to exceed the predicted 38 dBu field strength required in paragraph (a) of this section if all affected, co-channel EA and Regional licensees agree to the higher field strength.

(c) EA and Regional licensees must coordinate to minimize interference at or near their EA and REAG borders, and must cooperate to resolve any instances of interference in accordance with the provisions of Section 90.173(b).

PART 90--PRIVATE LAND MOBILE RADIO SERVICES

SUBPART W--Competitive Bidding Procedures for the 220 MHz Service

Sec. 90.1001 220 MHz service subject to competitive bidding.

Mutually exclusive initial applications for 220 MHz geographic area licenses are subject to competitive bidding procedures. The procedures set forth in part 1, subpart Q, of this chapter will apply unless otherwise provided in this part.

Sec. 90.1003 Competitive bidding design for the 220 MHz service.

A simultaneous multiple round auction will be used to choose from among mutually exclusive initial applications for 220 MHz geographic area licenses, unless the Commission specifies otherwise by Public Notice prior to the competitive bidding procedure.

Sec. 90.1005 Competitive bidding mechanisms.

(a) Sequencing. The Commission will establish and may vary the sequence in which 220 MHz geographic area licenses are auctioned.

(b) Grouping. The Commission will determine which licenses will be auctioned simultaneously or in combination.

(c) Minimum bid increments. The Commission may, by public announcement before or during an auction, require minimum bid increments in dollar or percentage terms.

(d) Stopping rules. The Commission may establish stopping rules before or during an auction in order to terminate the auction within a reasonable time.

(e) Activity rules. The Commission may establish activity rules which require a minimum amount of bidding activity. In the event that the Commission establishes an activity rule in connection with a simultaneous multiple round auction, each bidder may request waivers of such rule during the auction. The Commission may, by public announcement either before or during the auction, specify or vary the number of waivers available to each bidder.

Sec. 90.1007 Withdrawal, default and disqualification payments.

The Commission will impose payments on bidders who withdraw high bids during the course of an auction, who default on payments due after an auction terminates, or who are disqualified. When the Commission conducts a simultaneous multiple round auction, payments will be calculated as set forth in Sections 1.2104(g) and 1.2109 of this chapter. When the amount of such a payment cannot be determined, a deposit of up to 20 percent of the amount bid on the license will be required.

Sec. 90.1009 Bidding application (FCC Form 175 and 175-S Short-form).

Each applicant to participate in competitive bidding for 220 MHz geographic area licenses must submit an application (FCC Forms 175 and 175-S) pursuant to the provisions of Section 1.2105 of this chapter.

Sec. 90.1011 Submission of upfront payments and down payments.

(a) The Commission will require applicants to submit an upfront payment prior to the start of a 220 MHz Service auction. The amount of the upfront payment for each geographic area license auctioned and the procedures for submitting it will be set forth by the Wireless Telecommunications Bureau in a Public Notice in accordance with § 1.2106 of this chapter.

(b) Each winning bidder in a 220 MHz Service auction must submit a down payment to the Commission in an amount sufficient to bring its total deposits up to 20 percent of its winning bid within ten (10) business days following the release of a Public Notice announcing the close of bidding.

Sec. 90.1013 Long-form application (FCC Form 601).

Each successful bidder for a 220 MHz geographic area license must submit a long-form application (FCC Form 601) within ten (10) business days after being notified by Public Notice that it is the winning bidder. Applications for 220 MHz geographic area licenses on FCC Form 601 must be submitted in accordance with § 1.2107 of this chapter, all applicable procedures set forth in the rules in this part, and any applicable Public Notices that the Commission may issue in connection with an auction. After an auction, the Commission will not accept long-form applications for 220 MHz geographic area licenses from anyone other than the auction winners and parties seeking partitioned licenses pursuant to agreements with auction winners under § 90.1019 of this chapter.

Sec. 90.1015 License grant, denial, default, and disqualification.

(a) Unless otherwise specified by Public Notice, auction winners are required to pay the balance of their winning bids in a lump sum within ten (10) business days following the release of a Public Notice establishing the payment deadline. If a winning bidder fails to pay the balance of its winning bids in a lump sum by the applicable deadline as specified by the Commission, it will be allowed to make payment within ten (10) business days after the payment deadline, provided that it also pays a late fee equal to five percent of the amount due. When a winning bidder fails to pay the balance of its winning bid by the late payment deadline, it is considered to be in default on its license(s) and subject to the applicable default payments. Licenses will be awarded upon the full and timely payment of winning bids and any applicable late fees.

(b) A bidder that withdraws its bid subsequent to the close of bidding, defaults on a payment due, or is disqualified, is subject to the payments specified in § 1.2104(g), § 1.2109, and § 90.1007 of this chapter, as applicable.

Section 90.1017 Bidding Credits For Small Businesses and Very Small Businesses.

(a) Bidding Credits. A winning bidder that qualifies as a small business or a consortium of small businesses as defined in Section 90.1021(b)(1) or Section 90.1021(b)(4) may use a bidding credit of 25 percent to lower the cost of its winning bid. A winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in Section 90.1021(b)(2) or Section 90.1021(b)(4) may use a bidding credit of 35 percent to lower the cost of its winning bid.

(b) Unjust Enrichment - Bidding Credits.

(1) If a small business or very small business (as defined in §§ 90.1021(b)(1) and 90.1021(b)(2), respectively) that utilizes a bidding credit under this section seeks to transfer control or assign an authorization to an entity that is not a small business or a very small business, or seeks to make any other change in ownership that would result in the licensee losing eligibility as a small business or very small business, the small business or very small business must seek Commission approval and reimburse the U.S. government for the amount of the bidding credit, plus interest based on the rate for ten year U.S. Treasury obligations applicable on the date the license was granted, as a condition of approval of the assignment, transfer, or other ownership change.

(2) If a very small business (as defined in § 90.1021(b)(2) that utilizes a bidding credit under this section seeks to transfer control or assign an authorization to a small business meeting the eligibility standards for a lower bidding credit, or seeks to make any other change in ownership that would result in the licensee qualifying for a lower bidding credit under this section, the licensee must seek Commission approval and reimburse the U.S. government for the difference between the amount of the bidding credit obtained by the licensee and the bidding credit for which the assignee, transferee, or licensee is eligible under this section, plus interest based on the rate for ten year U.S. Treasury obligations applicable on the date the license was granted, as a condition of the approval of such assignment, transfer, or other ownership change.

(3) The amount of payments made pursuant to paragraphs (b)(1) and (b)(2) of this section will be reduced over time as follows: A transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or the difference between the bidding credit obtained by the original licensee and the bidding credit for which the post-transfer licensee is eligible); in year 3 of the license term the payment will be 75 percent; in year 4 the payment will be 50 percent; and in year 5 the payment will be 25 percent, after which there will be no assessment.

Sec. 90.1019 Eligibility for partitioned licenses.

If partitioned licenses are being applied for in conjunction with a license(s) to be awarded through competitive bidding procedures--

(a) The applicable procedures for filing short-form applications and for submitting upfront payments and down payments contained in this chapter shall be followed by the applicant, who must disclose as part of its short-form application all parties to agreement(s) with or among other entities to partition the license pursuant to this section, if won at auction (see 47 CFR 1.2105(a)(2)(viii));

(b) Each party to an agreement to partition the license must file a long-form application (FCC Form 600) for its respective, mutually agreed-upon geographic license area together with the application for the remainder of the geographic license area filed by the auction winner.

(c) If the partitioned license is being applied for as a partial assignment of the geographic area license following grant of the initial license, request for authorization for partial assignment of a license shall be made pursuant to Section 90.153.

Sec. 90.1021 Definitions concerning competitive bidding process.

(a) Scope. The definitions in this section apply to Sections 90.1001 through 90.1025, unless otherwise specified in those sections.

(b) Small business; very small business; consortium of small businesses or very small businesses. (1) A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.

(2) A very small business is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.

(3) For purposes of determining whether an entity meets either of the definitions set forth in paragraph (b)(1) or (b)(2) of this section, the gross revenues of the entity, its affiliates, and controlling principals shall be considered on a cumulative basis and aggregated.

(4) A consortium of small businesses (or a consortium of very small businesses) is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the definition in paragraph (b)(1) of this section or each of which individually satisfies the definition in paragraph (b)(2) of this section.

Where an applicant (or licensee) is a consortium of small businesses (or very small businesses), the gross revenues of each small business (or very small business) shall not be aggregated.

(c) Gross revenues. Gross revenues shall mean all income received by an entity, whether earned or passive, before any deductions are made for costs of doing business (*e.g.*, cost of goods sold). Gross revenues are evidenced by audited financial statements for the relevant number of calendar or fiscal years preceding the filing of the applicant's short-form application (FCC Form 175). If an entity was not in existence for all or part of the relevant period, gross revenues shall be evidenced by the audited financial statements of the entity's predecessor-in-interest or, if there is no identifiable predecessor-in-interest, unaudited financial statements certified by the applicant as accurate. When an applicant does not otherwise use audited financial statements, its gross revenues may be certified by its chief financial officer or its equivalent.

(d) Affiliate.--(1) Basis for affiliation. An individual or entity is an affiliate of an applicant if such individual or entity:

(i) Directly or indirectly controls or has the power to control the applicant, or

(ii) Is directly or indirectly controlled by the applicant, or

(iii) Is directly or indirectly controlled by a third party or parties who also control or have the power to control the applicant, or

(iv) Has an "identity of interest" with the applicant.

(2) Nature of control in determining affiliation.

(i) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example for paragraph (d)(2)(i). An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting stock to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power of control.

(ii) Control can arise through stock ownership; occupancy of director, officer, or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(iii) Control can arise through management positions if the voting stock is so widely distributed that no effective control can be established.

Example for paragraph (d)(2)(iii). In a corporation where the officers and directors own various size blocks of stock totaling 40 percent of the corporation's voting stock, but no officer or director has a block sufficient to give him/her control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are controlling principals of the applicant, the other entity will be deemed an affiliate of the applicant.

(3) Identity of interest between and among persons. Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or is controlled by a concern, persons with an identity of interest will be treated as though they were one person.

(i) Spousal affiliation. Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States.

(ii) Kinship affiliation. Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context "immediate family member" means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father or -mother, step-brother or -sister, step-son or -daughter, half-brother or -sister. This presumption may be rebutted by showing that:

(A) The family members are estranged,

(B) The family ties are remote, or

(C) The family members are not closely involved with each other in business matters.

Example for paragraph (d)(3)(ii). A owns a controlling interest in Corporation X. A's sister-in-law, B, has a controlling interest in a 220 MHz service geographic area license application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation X is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(4) Affiliation through stock ownership. (i) An applicant is presumed to control or have the power to control a concern if he/she owns or controls or has the power to control 50 percent or more of its voting stock.

(ii) An applicant is presumed to control or have the power to control a concern even though he/she owns, controls, or has the power to control less than 50 percent of the concern's voting stock, if the block of stock he/she owns, controls, or has the power to control is large as compared with any other outstanding block of stock.

(iii) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(5) Affiliation arising under stock options, convertible debentures, and agreements to merge. Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements will generally be treated as though the rights held thereunder had been exercised. However, neither an affiliate nor an applicant can use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1 for paragraph (d)(5). If company B holds an option to purchase a controlling interest in company A, who holds a controlling interest in a 220 MHz service geographic area license application, the situation is treated as though company B had exercised its rights and had become owner of a controlling interest in company A. The gross revenues of company B must be taken into account in determining the size of the applicant.

Example 2 for paragraph (d)(5). If a large company, BigCo, holds 70% (70 of 100 outstanding shares) of the voting stock of company A, who holds a controlling interest in a 220 MHz service geographic area license application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company A, and thus the applicant, until SmallCo actually exercises its options to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule, which requires such options to be considered on a fully diluted basis, the option is not considered to have present effect in this case.

Example 3 for paragraph (d)(5). If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(6) Affiliation under voting trusts. (i) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will.

(ii) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(iii) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(7) Affiliation through common management. Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors and/or the management of another entity.

(8) Affiliation through common facilities. Affiliation generally arises where one concern shares office space and/or employees and/or other facilities with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through these sharing arrangements one concern has control, or potential control, of the other concern.

(9) Affiliation through contractual relationships. Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(10) Affiliation under joint venture arrangements.

(i) A joint venture for size determination purposes is an association of concerns and/or individuals, with interests in any degree or proportion, formed by contract, express or implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge, but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(ii) The parties to a joint venture are considered to be affiliated with each other.

Sec. 90.1023 Certifications, disclosures, records maintenance and audits.

(a) Short-Form Applications: Certifications and Disclosure. In addition to certifications and disclosures required in part 1, subpart Q, of this chapter, each applicant for a 220 MHz service geographic area license which qualifies as a small business, very small business, consortium of small businesses, or consortium of very small businesses, shall append the following information as an exhibit to its FCC Form 175:

(1) The identity of the applicant's affiliates and controlling principals, and, if a consortium of small businesses (or consortium of very small businesses), the members of the joint venture; and

(2) The applicant's gross revenues, computed in accordance with Section 90.1021.

(b) Long-Form Applications: Certifications and Disclosure. In addition to the requirements in Section 90.1013, each applicant submitting a long-form application for a 220 MHz service

geographic area license and qualifying as a small business or very small business shall, in an exhibit to its long-form application:

(1) Disclose separately and in the aggregate the gross revenues, computed in accordance with Section 90.1021, for each of the following: The applicant, the applicant's affiliates, the applicant's controlling principals, and, if a consortium of small businesses (or consortium of very small businesses), the members of the joint venture;

(2) List and summarize all agreements or other instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility as a small business or very small business under Sections 90.1017 through 90.1023, including the establishment of *de facto* and *de jure* control; such agreements and instruments include, but are not limited to, articles of incorporation and bylaws, shareholder agreements, voting or other trust agreements, franchise agreements, and any other relevant agreements including letters of intent, oral or written; and

(3) List and summarize any investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, and rights to hire and fire employees and to appoint members to boards of directors or management committees.

(c) Records maintenance. All winning bidders qualifying as small businesses or very small businesses shall maintain at their principal place of business an updated file of ownership, revenue, and asset information, including any documents necessary to establish eligibility as a small business or very small business and/or consortium of small businesses (or consortium of very small businesses) under Section 90.1021. Licensees (and their successors-in-interest) shall maintain such files for the term of the license. Applicants that do not obtain the license(s) for which they applied shall maintain such files until the grant of such license(s) is final, or one year from the date of the filing of their short-form application (FCC Form 175), whichever is earlier.

(d) Audits.

(1) Applicants and licensees claiming eligibility as a small business or very small business or consortium of small businesses (or consortium of very small businesses) under Sections 90.1017 through 90.1023 shall be subject to audits by the Commission. Selection for audit may be random, on information, or on the basis of other factors.

(2) Consent to such audits is part of the certification included in the short-form application (FCC Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding licensed 220 MHz service, and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

(e) Definitions. The terms affiliate, small business, very small business, consortium of small businesses (or consortium of very small businesses), and gross revenues used in this section are defined in Section 90.1021.

Sec. 90.1025 Petitions to deny and limitations on settlements.

(a) Procedures regarding petitions to deny long-form applications in the 220 MHz service will be governed by Sections 1.2108(b) through 1.2108(d) of this chapter and Section 90.163.

(b) The consideration that an individual or an entity will be permitted to receive for agreeing to withdraw an application or a petition to deny will be limited by the provisions set forth in Section 90.162 and Section 1.2105(c) of this chapter.

PART 1--PRACTICE AND PROCEDURE

SUBPART Q--Competitive Bidding Proceedings

Sec. 1.2101 Purpose.

The provisions of this subpart implement Section 309(j) of the Communications Act of 1934, as added by the Omnibus Budget Reconciliation Act of 1993 (Pub. L. 103-66) and the Balanced Budget Act of 1997 (Pub. L. 105-33), authorizing the Commission to employ competitive bidding procedures to choose from among two or more mutually exclusive applications for certain initial licenses.

Sec. 1.2102 Eligibility of applications for competitive bidding.

(a) Mutually exclusive initial applications are subject to competitive bidding.
(b) The following types of license applications are not subject to competitive bidding procedures:
(1) Public safety radio services, including private internal radio services used by state and local governments and non-government entities and including emergency road services provided by not-for-profit organizations, that
(i) Are used to protect the safety of life, health, or property; and
(ii) Are not commercially available to the public;
(2) Initial licenses or construction permits for digital television service given to existing terrestrial broadcast licensees to replace their analog television service licenses; or
(3) Noncommercial educational and public broadcast stations described under 47 U.S.C. 397(6).

Note to Section 1.2102: To determine the rules that apply to competitive bidding, specific service rules should also be consulted.

Sec. 1.2103 Competitive bidding design options.

(a) The Commission will choose from one or more of the following types of auction designs for services or classes of services subject to competitive bidding:
(1) Simultaneous multiple-round auctions (using remote or on-site electronic bidding);
(2) Sequential multiple round auctions (using either oral ascending or remote and/or on-site electronic bidding);
(3) Sequential or simultaneous single-round auctions (using either sealed paper or remote and/or on-site electronic bidding); and
(4) Combinatorial (package/contingent) bidding auctions.
(b) The Commission may use combinatorial bidding, which would allow bidders to submit all or nothing bids on combinations of licenses or authorizations, in addition to bids on individual licenses or authorizations. The Commission may require that to be declared the high bid, a

combinatorial bid must exceed the sum of the individual bids by a specified amount. Combinatorial bidding may be used with any type of auction. The Commission may also allow bidders to submit contingent bids on individual and/or combinations of licenses.

(c) The Commission may use single combined auctions, which combine bidding for two or more substitutable licenses and award licenses to the highest bidders until the available licenses are exhausted. This technique may be used in conjunction with any type of auction.

(d) Minimum Bid Increments, Minimum Opening Bids and Maximum Bid Increments. The Commission may, by announcement before or during an auction, require minimum bid increments in dollar or percentage terms. The Commission also may establish minimum opening bids and maximum bid increments on a service-specific basis.

Sec. 1.2104 Competitive bidding mechanisms.

(a) Sequencing. The Commission will establish the sequence in which multiple licenses will be auctioned.

(b) Grouping. In the event the Commission uses either a simultaneous multiple round competitive bidding design or combinatorial bidding, the Commission will determine which licenses will be auctioned simultaneously or in combination.

(c) Reservation Price. The Commission may establish a reservation price, either disclosed or undisclosed, below which a license subject to auction will not be awarded.

(d) Minimum Bid Increments, Minimum Opening Bids and Maximum Bid Increments. The Commission may, by announcement before or during an auction, require minimum bid increments in dollar or percentage terms. The Commission also may establish minimum opening bids and maximum bid increments on a service-specific basis.

(e) Stopping Rules. The Commission may establish stopping rules before or during multiple round auctions in order to terminate the auctions within a reasonable time.

(f) Activity Rules. The Commission may establish activity rules which require a minimum amount of bidding activity.

(g) Withdrawal, Default and Disqualification Payment. As specified below, when the Commission conducts an auction pursuant to Section 1.2103, the Commission will impose payments on bidders who withdraw high bids during the course of an auction, or who default on payments due after an auction closes or who are disqualified.

(1) Bid withdrawal prior to close of auction. A bidder who withdraws a high bid during the course of an auction is subject to a payment equal to the difference between the amount bid and the amount of the winning bid the next time the license is offered by the Commission. The bid withdrawal payment is either the difference between the net withdrawn bid and the subsequent net winning bid, or the difference between the gross withdrawn bid and the subsequent gross winning bid, whichever is less. No withdrawal payment is assessed if the subsequent winning bid exceeds the withdrawn bid. This payment amount is deducted from any upfront payments or down payments that the withdrawing bidder has deposited with the Commission.

(2) Default or disqualification after close of auction. If a high bidder defaults or is disqualified after the close of such an auction, the defaulting bidder will be subject to the payment in paragraph (g)(1) of this section plus an additional payment equal to 3 percent of the subsequent winning bid. If the subsequent winning bid exceeds the defaulting bidder's bid amount, the 3

percent payment will be calculated based on the defaulting bidder's bid amount. If either bid amount is subject to a bidding credit, the 3 percent credit will be calculated using the same bid amounts and basis (net or gross bids) as in the calculation of the payment in paragraph (g)(1) of this section. Thus, for example, if gross bids are used to calculate the payment in paragraph (g)(1) of this section, the 3 percent will be applied to the gross amount of the subsequent winning bid, or the gross amount of the defaulting bid, whichever is less.

(h) The Commission will generally release information concerning the identities of bidders before each auction but may choose, on an auction-by-auction basis, to withhold the identity of the bidders associated with bidder identification numbers.

(i) The Commission may delay, suspend, or cancel an auction in the event of a natural disaster, technical obstacle, evidence of security breach, unlawful bidding activity, administrative necessity, or for any other reason that affects the fair and efficient conduct of the competitive bidding. The Commission also has the authority, at its sole discretion, to resume the competitive bidding starting from the beginning of the current or some previous round or cancel the competitive bidding in its entirety.

Sec. 1.2105 Bidding application and certification procedures; prohibition of collusion.

(a) Submission of Short-Form Application (FCC Form 175). In order to be eligible to bid, an applicant must timely submit a short-form application (FCC Form 175), together with any appropriate upfront payment set forth by Public Notice. Beginning January 1, 1999, all short-form applications must be filed electronically.

(1) All short-form applications will be due:

(i) On the date(s) specified by public notice; or

(ii) In the case of application filing dates which occur automatically by operation of law (see, *e.g.*, 47 CFR 22.902), on a date specified by public notice after the Commission has reviewed the applications that have been filed on those dates and determined that mutual exclusivity exists.

(2) The short-form application must contain the following information:

(i) Identification of each license on which the applicant wishes to bid;

(ii)(A) The applicant's name, if the applicant is an individual. If the applicant is a corporation, then the short-form application will require the name and address of the corporate office and the name and title of an officer or director. If the applicant is a partnership, then the application will require the name, citizenship and address of all general partners, and, if a partner is not a natural person, then the name and title of a responsible person should be included as well. If the applicant is a trust, then the name and address of the trustee will be required. If the applicant is none of the above, then it must identify and describe itself and its principals or other responsible persons; and

(B) Applicant ownership information, as set forth in Section 1.2112.

(iii) The identity of the person(s) authorized to make or withdraw a bid;

(iv) If the applicant applies as a designated entity pursuant to Section 1.2110, a statement to that effect and a declaration, under penalty of perjury, that the applicant is qualified as a designated entity under Section 1.2110.

(v) Certification that the applicant is legally, technically, financially and otherwise qualified pursuant to section 308(b) of the Communications Act of 1934, as amended. The Commission will accept applications certifying that a request for waiver or other relief from the requirements of section 310 is pending;

(vi) Certification that the applicant is in compliance with the foreign ownership provisions of section 310 of the Communications Act of 1934, as amended;

(vii) Certification that the applicant is and will, during the pendency of its application(s), remain in compliance with any service-specific qualifications applicable to the licenses on which the applicant intends to bid including, but not limited to, financial qualifications. The Commission may require certification in certain services that the applicant will, following grant of a license, come into compliance with certain service-specific rules, including, but not limited to, ownership eligibility limitations;

(viii) An exhibit, certified as truthful under penalty of perjury, identifying all parties with whom the applicant has entered into partnerships, joint ventures, consortia or other agreements, arrangements or understandings of any kind relating to the licenses being auctioned, including any such agreements relating to the post-auction market structure.

(ix) Certification under penalty of perjury that it has not entered and will not enter into any explicit or implicit agreements, arrangements or understandings of any kind with any parties other than those identified pursuant to paragraph (a)(2)(viii) regarding the amount of their bids, bidding strategies or the particular licenses on which they will or will not bid.

(x) Certification that the applicant is not in default on any Commission licenses and that it is not delinquent on any non-tax debt owed to any Federal agency.

Note to paragraph (a): The Commission may also request applicants to submit additional information for informational purposes to aid in its preparation of required reports to Congress.

(b) Modification and Dismissal of Short-Form Application (FCC Form 175).

(1) Any short-form application (FCC Form 175) that does not contain all of the certifications required pursuant to this section is unacceptable for filing and cannot be corrected subsequent to the applicable filing deadline. The application will be dismissed with prejudice and the upfront payment, if paid, will be returned.

(2) The Commission will provide bidders a limited opportunity to cure defects specified herein (except for failure to sign the application and to make certifications) and to resubmit a corrected application. During the resubmission period for curing defects, a short-form application may be amended or modified to cure defects identified by the Commission or to make minor amendments or modifications. After the resubmission period has ended, a short-form application may be amended or modified to make minor changes or correct minor errors in the application. Major amendments cannot be made to a short-form application after the initial filing deadline. Major amendments include changes in ownership of the applicant that would constitute an assignment or transfer of control, changes in an applicant's size which would affect eligibility for designated entity provisions, and changes in the license service areas identified on the short-form application on which the applicant intends to bid. Minor amendments include, but are not limited to, the correction of typographical errors and other minor defects not identified as major. An application will be considered to be newly filed if it is amended by a major amendment and may not be resubmitted after applicable filing deadlines.

(3) Applicants who fail to correct defects in their applications in a timely manner as specified by public notice will have their applications dismissed with no opportunity for resubmission.

(c) Prohibition of collusion. (1) Except as provided in paragraphs (c)(2), (c)(3) and (c)(4) of this section, after the filing of short-form applications, all applicants are prohibited from cooperating, collaborating, discussing or disclosing in any manner the substance of their bids or bidding strategies, or discussing or negotiating settlement agreements, with other applicants until after the high bidder makes the required down payment, unless such applicants are members of a bidding consortium or other joint bidding arrangement identified on the bidder's short-form application pursuant to Section 1.2105(a)(2)(viii).

(2) Applicants may modify their short-form applications to reflect formation of consortia or changes in ownership at any time before or during an auction, provided such changes do not result in a change in control of the applicant, and provided that the parties forming consortia or entering into ownership agreements have not applied for licenses in any of the same geographic license areas. Such changes will not be considered major modifications of the application.

(3) After the filing of short-form applications, applicants may make areements to bid jointly for licenses, provided the parties to the agreement have not applied for licenses in any of the same geographic license areas.

(4) After the filing of short-form applications, a holder of a non-cntrolling attributable interest in an entity submitting a short-form application may acquire an ownership interest in, form a consortium with, or enter into a joint bidding arrangement with, other applicants for licenses in the same geographic license area, provided that:

(i) The attributable interest holder certifies to the Commission that it has not communicated and will not communicate with any party concerning the bids or bidding strategies of more than one of the applicants in which it holds an attributable interest, or with which it has a consortium or joint bidding arrangement, and which have applied for licenses in the same geographic license area(s); and

(ii) The arrangements do not result in any change in control of an applicant; or

(iii) When an applicant has withdrawn from the auction, is no longer placing bids and has no further eligibility, a holder of a non-controlling, attributable interest in such an applicant may obtain an ownership interest in or enter into a consortium with another applicant for a license in the same geographic service area, provided that the attributable interest holder certifies to the Commission that it did not communicate with the new applicant prior to the date that the original applicant withdrew from the auction.

(5) Applicants must modify their short-form applications to reflect any changes in ownership or in membership of consortia or joint bidding arrangements.

(6) For purposes of this paragraph:

(i) The term applicant shall include all controlling interests in the entity submitting a short-form application to participate in an auction (FCC Form 175), as well as all holders of partnership and other ownership interests and any stock interest amounting to 10 percent or more of the entity, or outstanding stock, or outstanding voting stock of the entity submitting a short-form application, and all officers and directors of that entity; and

(ii) The term bids or bidding strategies shall include capital calls or requests for additional funds in support of bids or bidding strategies.

Example: Company A is an applicant in area 1. Company B and Company C each own 10 percent of Company A. Company D is an applicant in area 1, area 2, and area 3. Company C is an

applicant in area 3. Without violating the Commission's Rules, Company B can enter into a consortium arrangement with Company D or acquire an ownership interest in Company D if Company B certifies either (1) that it has communicated with and will communicate neither with Company A or anyone else concerning Company A's bids or bidding strategy, nor with Company C or anyone else concerning Company C's bids or bidding strategy, or (2) that it has not communicated with and will not communicate with Company D or anyone else concerning Company D's bids or bidding strategy.

Sec. 1.2106 Submission of upfront payments.

(a) The Commission may require applicants for licenses subject to competitive bidding to submit an upfront payment. In that event, the amount of the upfront payment and the procedures for submitting it will be set forth in a Public Notice. No interest will be paid on upfront payments.

(b) Upfront payments must be made by wire transfer in U.S. dollars from a financial institution whose deposits are insured by the Federal Deposit Insurance Corporation and must be made payable to the Federal Communications Commission.

(c) If an upfront payment is not in compliance with the Commission's Rules, or if insufficient funds are tendered to constitute a valid upfront payment, the applicant shall have a limited opportunity to correct its submission to bring it up to the minimum valid upfront payment prior to the auction. If the applicant does not submit at least the minimum upfront payment, it will be ineligible to bid, its application will be dismissed and any upfront payment it has made will be returned.

(d) The upfront payment(s) of a bidder will be credited toward any down payment required for licenses on which the bidder is the high bidder. Where the upfront payment amount exceeds the required deposit of a winning bidder, the Commission may refund the excess amount after determining that no bid withdrawal penalties are owed by that bidder.

(e) In accordance with the provisions of paragraph (d), in the event a penalty is assessed pursuant to Section 1.2104 for bid withdrawal or default, upfront payments or down payments on deposit with the Commission will be used to satisfy the bid withdrawal or default penalty before being applied toward any additional payment obligations that the high bidder may have.

Sec. 1.2107 Submission of down payment and filing of long-form applications.

(a) After bidding has ended, the Commission will identify and notify the high bidder and declare the bidding closed.

(b) Unless otherwise specified by public notice, within ten (10) business days after being notified that it is a high bidder on a particular license(s), a high bidder must submit to the Commission's lockbox bank such additional funds (the "down payment") as are necessary to bring its total deposits (not including upfront payments applied to satisfy bid withdrawal or default payments) up to twenty (20) percent of its high bid(s). (In single round sealed bid auctions conducted under Section 1.2103, however, bidders may be required to submit their down payments with their bids.) Unless otherwise specified by public notice, this down payment must be made by wire transfer in U.S. dollars from a financial institution whose deposits are insured by the

Federal Deposit Insurance Corporation and must be made payable to the Federal Communications Commission. Down payments will be held by the Commission until the high bidder has been awarded the license and has paid the remaining balance due on the license or authorization, in which case it will not be returned, or until the winning bidder is found unqualified to be a licensee or has defaulted, in which case it will be returned, less applicable payments. No interest on any down payment will be paid to the bidders.

(c) A high bidder that meets its down payment obligations in a timely manner must, within ten (10) business days after being notified that it is a high bidder, submit an additional application (the "long-form application") pursuant to the rules governing the service in which the applicant is the high bidder. Notwithstanding any other provision in title 47 of the Code of Federal Regulations to the contrary, high bidders need not submit an additional application filing fee with their long-form applications. Specific procedures for filing applications will be set out by Public Notice. Ownership disclosure requirements are set forth in Section 1.2112. Beginning January 1, 1999, all long-form applications must be filed electronically. An applicant that fails to submit the required long-form application under this paragraph and fails to establish good cause for any late-filed submission, shall be deemed to have defaulted and will be subject to the payments set forth in Section 1.2104.

(d) As an exhibit to its long-form application, the applicant must provide a detailed explanation of the terms and conditions and parties involved in any bidding consortia, joint venture, partnership or other agreement or arrangement it had entered into relating to the competitive bidding process prior to the time bidding was completed. Such agreements must have been entered into prior to the filing of short-form applications pursuant to Section 1.2105.

Sec. 1.2108 Procedures for filing petitions to deny against long-form applications.

(a) Where petitions to deny are otherwise provided for under the Act or the Commission's Rules, and unless other service-specific procedures for the filing of such petitions are provided for elsewhere in the Commission's Rules, the procedures in this section shall apply to the filing of petitions to deny the long-form applications of winning bidders.

(b) Within a period specified by Public Notice, and after the Commission by public notice announces that long-form applications have been accepted for filing, petitions to deny such applications may be filed. In all cases, the period for filing petitions to deny shall be no shorter than five (5) days. Any such petitions must contain allegations of fact supported by affidavit of a person or persons with personal knowledge thereof.

(c) An applicant may file an opposition to any petition to deny, and the petitioner a reply to such opposition. Allegations of fact or denials thereof must be supported by affidavit of a person or persons with personal knowledge thereof. The time for filing such oppositions shall be at least five (5) days from the filing date for petitions to deny, and the time for filing replies shall be at least five (5) days from the filing date for oppositions. The Commission may grant a license based on any long-form application that has been accepted for filing. The Commission shall in no case grant licenses earlier than seven (7) days following issuance of a public notice announcing long-form applications have been accepted for filing.

(d) If the Commission determines that:

(1) an applicant is qualified and there is no substantial and material issue of fact concerning that determination, it will grant the application.

(2) an applicant is not qualified and that there is no substantial issue of fact concerning that determination, the Commission need not hold an evidentiary hearing and will deny the application.

(3) substantial and material issues of fact require a hearing, it will conduct a hearing. The Commission may permit all or part of the evidence to be submitted in written form and may permit employees other than administrative law judges to preside at the taking of written evidence. Such hearing will be conducted on an expedited basis.

Sec. 1.2109 License grant, denial, default, and disqualification.

(a) Unless otherwise specified by public notice, auction winners are required to pay the balance of their winning bids in a lump sum within ten (10) business days following the release of a public notice establishing the payment deadline. If a winning bidder fails to pay the balance of its winning bids in a lump sum by the applicable deadline as specified by the Commission, it will be allowed to make payment within ten (10) business days after the payment deadline, provided that it also pays a late fee equal to five percent of the amount due. When a winning bidder fails to pay the balance of its winning bid by the late payment deadline, it is considered to be in default on its license(s) and subject to the applicable default payments. Licenses will be awarded upon the full and timely payment of winning bids and any applicable late fees.

(b) If a winning bidder withdraws its bid after the Commission has declared competitive bidding closed or fails to remit the required down payment within ten (10) business days after the Commission has declared competitive bidding closed, the bidder will be deemed to have defaulted, its application will be dismissed, and it will be liable for the default payment specified in Section 1.2104(g)(2). In such event, the Commission, at its discretion, may either re-auction the license to existing or new applicants or offer it to the other highest bidders (in descending order) at their final bids. The down payment obligations set forth in Section 1.2107(b) will apply.

(c) A winning bidder who is found unqualified to be a licensee, fails to remit the balance of its winning bid in a timely manner, or defaults or is disqualified for any reason after having made the required down payment, will be deemed to have defaulted and will be liable for the payment set forth in Section 1.2104(g)(2). In such event, the Commission may either re-auction the license to existing or new applicants or offer it to the other highest bidders (in descending order) at their final bids.

(d) Bidders who are found to have violated the antitrust laws or the Commission's Rules in connection with their participation in the competitive bidding process may be subject, in addition to any other applicable sanctions, to forfeiture of their upfront payment, down payment or full bid amount, and may be prohibited from participating in future auctions.

Sec. 1.2110 Designated entities.

(a) Designated entities are small businesses, businesses owned by members of minority groups and/or women, and rural telephone companies.

(b) Definitions. (1) Small businesses. The Commission will establish the definition of a small business on a service-specific basis, taking into consideration the characteristics and capital requirements of the particular service.

(2) Businesses owned by members of minority groups and/or women. Unless otherwise provided in rules governing specific services, a business owned by members of minority groups and/or women is one in which minorities and/or women who are U.S. citizens control the applicant, have at least 50.1 percent equity ownership and, in the case of a corporate applicant, a 50.1 percent voting interest. For applicants that are partnerships, every general partner either must be a minority and/or woman (or minorities and/or women) who are U.S. citizens and who individually or together own at least 50.1 percent of the partnership equity, or an entity that is 100 percent owned and controlled by minorities and/or women who are U.S. citizens. The interests of minorities and women are to be calculated on a fully-diluted basis; agreements such as stock options and convertible debentures shall be considered to have a present effect on the power to control an entity and shall be treated as if the rights thereunder already have been fully exercised. However, upon a demonstration that options or conversion rights held by non-controlling principals will not deprive the minority and female principals of a substantial financial stake in the venture or impair their rights to control the designated entity, a designated entity may seek a waiver of the requirement that the equity of the minority and female principals must be calculated on a fully-diluted basis. The term minority includes individuals of African American, Hispanic-surnamed, American Eskimo, Aleut, American Indian and Asian American extraction.

(3) Rural telephone companies. A rural telephone company is any local exchange carrier operating entity to the extent that such entity--

(i) provides common carrier service to any local exchange carrier study area that does not include either

(A) any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census, or

(B) any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of the Census as of August 10, 1993;

(ii) provides telephone exchange service, including exchange access, to fewer than 50,000 access lines;

(iii) provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or

(iv) has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996.

(4) Affiliate.

(i) An individual or entity is an affiliate of an applicant or of a person holding an attributable interest in an applicant if such individual or entity--

(A) Directly or indirectly controls or has the power to control the applicant, or

(B) Is directly or indirectly controlled by the applicant, or

(C) Is directly or indirectly controlled by a third party or parties that also controls or has the power to control the applicant, or

(D) Has an "identity of interest" with the applicant.

(ii) Nature of control in determining affiliation.

(A) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example. An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting stock to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power to control.

(B) Control can arise through stock ownership; occupancy of director, officer or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(C) Control can arise through management positions where a concern's voting stock is so widely distributed that no effective control can be established.

Example. In a corporation where the officers and directors own various size blocks of stock totaling 40 percent of the corporation's voting stock, but no officer or director has a block sufficient to give him or her control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are persons with attributable interests in the applicant, the other entity will be deemed an affiliate of the applicant.

(iii) Identity of interest between and among persons. Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or has the power to control a concern, persons with an identity of interest will be treated as though they were one person.

Example. Two shareholders in Corporation Y each have attributable interests in the same PCS application. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. The two shareholders with these common investments (or identity in interest) are treated as though they are one person and Corporation Y would be deemed an affiliate of the applicant.

(A) Spousal affiliation. Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States. In calculating their net worth, investors who are legally separated must include their share of interests in property held jointly with a spouse.

(B) Kinship affiliation. Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context "immediate family member" means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father or -mother, step-brother or -sister, step-son or -daughter, half brother or sister. This presumption

may be rebutted by showing that the family members are estranged, the family ties are remote, or the family members are not closely involved with each other in business matters.

Example. A owns a controlling interest in Corporation X. A's sister-in-law, B, has an attributable interest in a PCS application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation Y is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(iv) Affiliation through stock ownership.

(A) An applicant is presumed to control or have the power to control a concern if he or she owns or controls or has the power to control 50 percent or more of its voting stock.

(B) An applicant is presumed to control or have the power to control a concern even though he or she owns, controls or has the power to control less than 50 percent of the concern's voting stock, if the block of stock he or she owns, controls or has the power to control is large as compared with any other outstanding block of stock.

(C) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(v) Affiliation arising under stock options, convertible debentures, and agreements to merge. Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements are generally treated as though the rights held thereunder had been exercised. However, an affiliate cannot use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1. If company B holds an option to purchase a controlling interest in company A, who holds an attributable interest in a PCS application, the situation is treated as though company B had exercised its rights and had come owner of a controlling interest in company A. The gross revenues of company B must be taken into account in determining the size of the applicant.

Example 2. If a large company, BigCo, holds 70% (70 of 100 outstanding shares) of the voting stock of company A, who holds an attributable interest in a PCS application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company A, and thus the applicant, until SmallCo actually exercises its option to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule which requires such options to be considered on a fully diluted basis, the option is not considered to have present effect in this case.

Example 3. If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(vi) Affiliation under voting trusts.

(A) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will. (B) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the

beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(C) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(vii) Affiliation through common management. Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors and/or the management of another entity.

(viii) Affiliation through common facilities. Affiliation generally arises where one concern shares office space and/or employees and/or other facilities with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through these sharing arrangements one concern has control, or potential control, of the other concern.

(ix) Affiliation through contractual relationships. Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(x) Affiliation under joint venture arrangements.

(A) A joint venture for size determination purposes is an association of concerns and/or individuals, with interests in any degree or proportion, formed by contract, express or implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge, but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(B) The parties to a joint venture are considered to be affiliated with each other. Nothing in this subsection shall be construed to define a small business consortium, for purposes of determining status as a designated entity, as a joint venture under attribution standards provided in this section.

(xi) Exclusion from affiliation coverage. For purposes of this section, Indian tribes or Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.), or entities owned and controlled by such tribes or corporations, are not considered affiliates of an applicant (or licensee) that is owned and controlled by such tribes, corporations or entities, and that otherwise complies with the requirements of this section, except that gross revenues derived from gaming activities conducted by affiliate entities pursuant to the Indian Gaming Regulatory Act (25 U.S.C. 2701 et seq.) will be counted in determining such applicant's (or licensee's) compliance with the financial requirements of this section, unless such applicant establishes that it will not receive a substantial unfair competitive advantage because significant legal constraints restrict the applicant's ability to access such gross revenues.

(c) The Commission may set aside specific licenses for which only eligible designated entities, as specified by the Commission, may bid.

(d) The Commission may permit partitioning of service areas in particular services for eligible designated entities.

(e) Bidding credits.

(1) The Commission may award bidding credits (*i.e.*, payment discounts) to eligible designated entities. Competitive bidding rules applicable to individual services will specify the designated entities eligible for bidding credits, the licenses for which bidding credits are available, the amounts of bidding credits and other procedures.

(2) Size of bidding credits. A winning bidder that qualifies as a small business or a consortium of small businesses may use the following bidding credits corresponding to their respective average gross revenues for the preceding 3 years:

(i) Businesses with average gross revenues for the preceding years, 3 years not exceeding $3 million are eligible for bidding credits of 35 percent;

(ii) Businesses with average gross revenues for the preceding years, 3 years not exceeding $15 million are eligible for bidding credits of 25 percent; and

(iii) Businesses with average gross revenues for the preceding years, 3 years not exceeding $40 million are eligible for bidding credits of 15 percent.

(f) Installment payments. The Commission may permit small businesses (including small businesses owned by women, minorities, or rural telephone companies that qualify as small businesses) and other entities determined to be eligible on a service-specific basis, which are high bidders for licenses specified by the Commission, to pay the full amount of their high bids in installments over the term of their licenses pursuant to the following:

(1) Unless otherwise specified by public notice, each eligible applicant paying for its license(s) on an installment basis must deposit by wire transfer in the manner specified in Section 1.2107(b) sufficient additional funds as are necessary to bring its total deposits to ten (10) percent of its winning bid(s) within ten (10) days after the Commission has declared it the winning bidder and closed the bidding. Failure to remit the required payment will make the bidder liable to pay a default payment pursuant to Section 1.2104(g)(2).

(2) Within ten (10) days of the conditional grant of the license application of a winning bidder eligible for installment payments, the licensee shall pay another ten (10) percent of the high bid, thereby commencing the eligible licensee's installment payment plan. If a winning bidder eligible for installment payments fails to submit this additional ten (10) percent of its high bid by the applicable deadline as specified by the Commission, it will be allowed to make payment within ten (10) business days after the payment deadline, provided that it also pays a late fee equal to five percent of the amount due. When a winning bidder eligible for installment payments fails to submit this additional ten (10) percent of its winning bid, plus the late fee, by the late payment deadline, it is considered to be in default on its license(s) and subject to the applicable default payments. Licenses will be awarded upon the full and timely payment of second down payments and any applicable late fees.

(3) Upon grant of the license, the Commission will notify each eligible licensee of the terms of its installment payment plan and that it must execute a promissory note and security agreement as a condition of the installment payment plan. Unless other terms are specified in the rules of particular services, such plans will:

(i) Impose interest based on the rate of U.S. Treasury obligations (with maturities closest to the duration of the license term) at the time of licensing;

(ii) Allow installment payments for the full license term;

(iii) Begin with interest-only payments for the first two years; and

(iv) Amortize principal and interest over the remaining term of the license.

(4) A license granted to an eligible entity that elects installment payments shall be conditioned upon the full and timely performance of the licensee's payment obligations under the installment plan.

(i) Any licensee that fails to submit payment on an installment obligation will automatically have an additional ninety (90) days in which to submit its required payment without being considered delinquent. Any licensee making its required payment during this period will be assessed a late payment fee equal to five percent (5%) of the amount of the past due payment. Late fees assessed under this paragraph will accrue on the next business day following the payment due date. Payments made at the close of any grace period will first be applied to satisfy any lender advances as required under each licensee's "Note and Security Agreement." Afterwards, payments will be applied in the following order: late charges, interest charges, principal payments.

(ii) If any licensee fails to make the required payment at the close of the 90-day period set forth in paragraph (i) of this section, the licensee will automatically be provided with a subsequent 90-day grace period, except that no subsequent automatic grace period will be provided for payments from C or F block licensees that are not made within 90 days of the payment resumption date for those licensees, as explained in Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees, Order on Reconsideration of the Second Report and Order, WT Docket No. 97-82, FCC 98-46 (rel. Mar. 24, 1998). Any licensee making a required payment during this subsequent period will be assessed a late payment fee equal to ten percent (10%) of the amount of the past due payment.

Licensees shall not be required to submit any form of request in order to take advantage of the initial 90-day non-delinquency period and subsequent automatic 90-day grace period. All licensees that avail themselves of the automatic grace period must pay the required late fee(s), all interest accrued during the non-delinquency and grace periods, and the appropriate scheduled payment with the first payment made following the conclusion of the grace period.

(iii) If an eligible entity making installment payments is more than one hundred and eighty (180) days delinquent in any payment, it shall be in default, except that C and F block licensees shall be in default if their payment due on the payment resumption date, referenced in paragraph (f)(4)(ii) of this section, is more than ninety (90) days delinquent.

(iv) Any eligible entity that submits an installment payment after the due date but fails to pay any late fee, interest or principal at the close of the 90-day non-delinquency period and subsequent automatic grace period, if such a grace period is available, will be declared in default, its license will automatically cancel, and will be subject to debt collection procedures.

(g) The Commission may establish different upfront payment requirements for categories of designated entities in competitive bidding rules of particular auctionable services.

(h) The Commission may offer designated entities a combination of the available preferences or additional preferences.

(i) Designated entities must describe on their long-form applications how they satisfy the requirements for eligibility for designated entity status, and must list and summarize on their long-form applications all agreements that effect designated entity status, such as partnership agreements, shareholder agreements, management agreements and other agreements, including

oral agreements, which establish that the designated entity will have both *de facto* and *de jure* control of the entity. Such information must be maintained at the licensees' facilities or by their designated agents for the term of the license in order to enable the Commission to audit designated entity eligibility on an ongoing basis.

(j) The Commission may, on a service-specific basis, permit consortia, each member of which individually meets the eligibility requirements, to qualify for any designated entity provisions.

(k) The Commission may, on a service-specific basis, permit publicly-traded companies that are owned by members of minority groups or women to qualify for any designated entity provisions.

(l) Audits.

(1) Applicants and licensees claiming eligibility under this section shall be subject to audits by the Commission, using in-house and contract resources. Selection for audit may be random, on information, or on the basis of other factors.

(2) Consent to such audits is part of the certification included in the short-form application (FCC Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding FCC-licensed service and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

(m) Gross revenues. Gross revenues shall mean all income received by an entity, whether earned or passive, before any deductions are made for costs of doing business (*e.g.*, cost of goods sold), as evidenced by audited financial statements for the relevant number of most recently completed calendar years or, if audited financial statements were not prepared on a calendar-year basis, for the most recently completed fiscal years preceding the filing of the applicant's short-form (FCC Form 175). If an entity was not in existence for all or part of the relevant period, gross revenues shall be evidenced by the audited financial statements of the entity's predecessor-in-interest or, if there is no identifiable predecessor-in-interest, unaudited financial statements certified by the applicant as accurate. When an applicant does not otherwise use audited financial statements, its gross revenues may be certified by its chief financial officer or its equivalent and must be prepared in accordance with Generally Accepted Accounting Principles.

Sec. 1.2111 Assignment or transfer of control: unjust enrichment.

(a) Reporting requirement. An applicant seeking approval for a transfer of control or assignment (otherwise permitted under the Commission's Rules) of a license within three years of receiving a new license through a competitive bidding procedure must, together with its application for transfer of control or assignment, file with the Commission's statement indicating that its license was obtained through competitive bidding. Such applicant must also file with the Commission the associated contracts for sale, option agreements, management agreements, or other documents disclosing the local consideration that the applicant would receive in return for the transfer or assignment of its license. This information should include not only a monetary

purchase price, but also any future, contingent, in-kind, or other consideration (*e.g.*, management or consulting contracts either with or without an option to purchase; below market financing).

(b) Unjust enrichment payment: set-aside. As specified in this paragraph an applicant seeking approval for a transfer of control or assignment (otherwise permitted under the Commission's Rules) of a license acquired by the transferor or assignor pursuant to a set-aside for eligible designated entities under Section 1.2110(c), or who proposes to take any other action relating to ownership or control that will result in loss of status as an eligible designated entity, must seek Commission approval and may be required to make an unjust enrichment payment (Payment) to the Commission by cashier's check or wire transfer before consent will be granted. The Payment will be based upon a schedule that will take account of the term of the license, any applicable construction benchmarks, and the estimated value of the set-aside benefit, which will be calculated as the difference between the amount paid by the designated entity for the license and the value of comparable non-set-aside license in the free market at the time of the auction. The Commission will establish the amount of the Payment and the burden will be on the applicants to disprove this amount. No payment will be required if:

(1) The license is transferred or assigned more than five years after its initial issuance, unless otherwise specified; or

(2) The proposed transferee or assignee is an eligible designated entity under Section 1.2110(c) or the service-specific competitive bidding rules of the particular service, and so certifies.

(c) Unjust enrichment payment: installment financing.

(1) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of its license to an entity not meeting the eligibility standards for installment payments, the licensee must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of assignment or transfer as a condition of approval.

(2) If a licensee that utilizes installment financing under this section seeks to make any change in ownership structure that would result in the licensee losing eligibility for installment payments, the licensee shall first seek Commission approval and must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of such change as a condition of approval. A licensee's (or other attributable entity's) increased gross revenues or increased total assets due to nonattributable equity investments, debt financing, revenue from operations or other investments, business development or expanded service shall not be considered to result in the licensee losing eligibility for installment payments.

(3) If a licensee seeks to make any change in ownership that would result in the licensee qualifying for a less favorable installment plan under this section, the licensee shall seek Commission approval and must adjust its payment plan to reflect its new eligibility status. A licensee may not switch its payment plan to a more favorable plan.

(d) Unjust enrichment payment: bidding credits. (1) A licensee that utilizes a bidding credit, and that during the initial term seeks to assign or transfer control of a license to an entity that does not meet the eligibility criteria for a bidding credit, will be required to reimburse the U.S. Government for the amount of the bidding credit, plus interest based on the rate for ten year U.S. Treasury obligations applicable on the date the license was granted, as a condition of Commission approval of the assignment or transfer. If, within the initial term of the license, a licensee that utilizes a bidding credit seeks to assign or transfer control of a license to an entity that is eligible for a lower bidding credit, the difference between the bidding credit obtained by the assigning party and the bidding credit for which the acquiring party would qualify, plus interest based on the rate for ten

year U.S. Treasury obligations applicable on the date the license is granted, must be paid to the U.S. Government as a condition of Commission approval of the assignment or transfer. If, within the initial term of the license, a licensee that utilizes a bidding credit seeks to make any ownership change that would result in the licensee losing eligibility for a bidding credit (or qualifying for a lower bidding credit), the amount of the bidding credit (or the difference between the bidding credit originally obtained and the bidding credit for which the restructured licensee would qualify), plus interest based on the rate for ten year U.S. Treasury obligations applicable on the date the license is granted, must be paid to the U.S. Government as a condition of Commission approval of the assignment or transfer.

(2) Payment schedule.

(i) The amount of payments made pursuant to paragraph (d)(1) of this section will be reduced over time as follows:

(A) A transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or in the case of very small businesses transferring to small businesses, 100 percent of the difference between the bidding credit received by the former and the bidding credit for which the latter is eligible);

(B) A transfer in year 3 of the license term will result in a forfeiture of 75 percent of the value of the bidding credit;

(C) A transfer in year 4 of the license term will result in a forfeiture of 50 percent of the value of the bidding credit;

(D) A transfer in year 5 of the license term will result in a forfeiture of 25 percent of the value of the bidding credit; and

(E) for a transfer in year 6 or thereafter, there will be no payment.

(ii) These payments will have to be paid to the United States Treasury as a condition of approval of the assignment, transfer, or ownership change.

(e) Unjust enrichment: partitioning and disaggregation.

(1) Installment payments. Licensees making installment payments, that partition their licenses or disaggregate their spectrum to entities not meeting the eligibility standards for installment payments, will be subject to the provisions concerning unjust enrichment as set forth in this section.

(2) Bidding credits. Licensees that received a bidding credit that partition their licenses or disaggregate their spectrum to entities not meeting the eligibility standards for such a bidding credit, will be subject to the provisions concerning unjust enrichment as set forth in this section.

(3) Apportioning unjust enrichment payments. Unjust enrichment payments for partitioned license areas shall be calculated based upon the ratio of the population of the partitioned license area to the overall population of the license area and by utilizing the most recent census data. Unjust enrichment payments for disaggregated spectrum shall be calculated based upon the ratio of the amount of spectrum disaggregated to the amount of spectrum held by the licensee.

Sec. 1.2112 Ownership disclosure requirements for short- and long-form applications.

(a) Each application for a license or authorization or for consent to assign or transfer control of a license or authorization shall disclose fully the real party or parties in interest and must include in an exhibit the following information:

(1) A list of any FCC-regulated business 10 percent or more of whose stock, warrants, options or debt securities are owned by the applicant or an officer, director, attributable stockholder or key management personnel of the applicant. This list must include a description of each such business' principal business and a description of each such business' relationship to the applicant;

(2) A list of any party holding a 10 percent or greater interest in the applicant, including the specific amount of the interest;

(3) A list of any party holding a 10 percent or greater interest in any entity holding or applying for any FCC-regulated business in which a 10 percent or more interest is held by another party which holds a 10 percent or more interest in the applicant (*e.g.*, If company A owns 10 percent of Company B (the applicant) and 10 percent of Company C then Companies A and C must be listed on Company B's application);

(4) A list of the names, addresses, and citizenship of any party holding 10 percent or more of each class of stock, warrants, options or debt securities together with the amount and percentage held;

(5) A list of the names, addresses, and citizenship of all controlling interests of the applicants, as set forth in Section 1.2110;

(6) In the case of a general partnership, the name, address and citizenship of each partner, and the share or interest participation in the partnership;

(7) In the case of a limited partnership, the name, address and citizenship of each limited partner whose interest in the applicant is equal to or greater than 10 percent (as calculated according to the percentage of equity paid in and the percentage of distribution of profits and losses);

(8) In the case of a limited liability corporation, the name, address and citizenship of each of its members; and

(9) A list of all parties holding indirect ownership interests in the applicant, as determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain, that equals 10 percent or more of the applicant, except that if the ownership percentage for an interest in any link in the chain exceeds 50 percent or represents actual control, it shall be treated and reported as if it were a 100 percent interest.

(b) In addition to the information required under paragraph (a) of this section, each applicant for a license or authorization claiming status as a small business shall, as an exhibit to its long-form application:

(1) Disclose separately and in the aggregate the gross revenues, computed in accordance with Section 1.2110, for each of the following: the applicant and its affiliates, the applicant's attributable investors, affiliates of its attributable investors, and, if a consortium of small businesses, the members comprising the consortium;

(2) List and summarize all agreements or instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility as a small business under the applicable designated entity provisions, including the establishment of *de facto* and *de jure* control; such agreements and instruments include articles or incorporation

and bylaws, shareholder agreements, voting or other trust agreements, franchise agreements, and any other relevant agreements (including letters of intent), oral or written; and

(3) List and summarize any investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, and rights to hire and fire employees and to appoint members to boards of directors or management committees.

Sec. 1.2113 Construction prior to grant of application.

Subject to the provisions of this section, applicants for licenses awarded by competitive bidding may construct facilities to provide service prior to grant of their applications, but must not operate such facilities until the FCC grants an authorization. If the conditions stated in this section are not met, applicants must not begin to construct facilities for licenses subject to competitive bidding.

(a) When applicants may begin construction. An applicant may begin construction of a facility upon release of the Public Notice listing the post-auction long-form application for that facility as acceptable for filing.

(b) Notification to stop. If the FCC for any reason determines that construction should not be started or should be stopped while an application is pending, and so notifies the applicant, orally (followed by written confirmation) or in writing, the applicant must not begin construction or, if construction has begun, must stop construction immediately.

(c) Assumption of risk. Applicants that begin construction pursuant to this section before receiving an authorization do so at their own risk and have no recourse against the United States for any losses resulting from:

(1) Applications that are not granted;

(2) Errors or delays in issuing public notices;

(3) Having to alter, relocate or dismantle the facility; or,

(4) Incurring whatever costs may be necessary to bring the facility into compliance with applicable laws, or FCC rules and orders.

(d) Conditions. Except as indicated, all pre-grant construction is subject to the following conditions:

(1) The application does not include a request for a waiver of one or more FCC rules;

(2) For any construction or alteration that would exceed the requirements of Section 17.7 of this chapter, the licensee has notified the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-I), filed a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, PRB, Support Services Branch, Gettysburg, PA 17325;

(3) The applicant has indicated in the application that the proposed facility would not have a significant environmental effect, in accordance with Sections 1.1301 through 1.1319;

(4) Under applicable international agreements and rules in this part, individual coordination of the proposed channel assignment(s) with a foreign administration is not required; and

(5) Any service-specific restrictions not listed herein.

PARTIAL BIBLIOGRAPHY

The following documents can be found at an FCC web site:
http://www.fcc.gov/wtb/auctions/collusio/collusio.html
*Items with an asterisk are reproduced in this Bidder Information Package.

A. Rulemaking to Amend Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552

Report and Order, FCC 91-74, 6 FCC Rcd. 2356 (1991), 56 FR 19598 (April 29, 1991).

Memorandum Opinion and Order, FCC 92-261, 7 FCC Rcd. 4484 (1992), 57 FR 32448 (July 22, 1992).

Second Report and Order, FCC 96-27, 11 FCC Rcd. 3668 (1996), 61 FR 3841 (Feb. 2, 1996).

**Third Report and Order and Fifth Notice of Proposed Rulemaking*, FCC 97-57, 12 FCC Rcd. 10943 (1997), 62 FR 15978 (April 3, 1997)

Fourth Report and Order, FCC 97-225, 12 FCC Rcd. 13453 (1997), 62 FR 46211 (Sept. 2, 1997).

B. Rulemaking, Amendment of Part 1 of the Commission's Rules -- Competitive Bidding Procedures, WT Docket No. 97-82

Order, Memorandum Opinion and Order and Notice of Proposed Rule Making, FCC 97-60, 12 FCC Rcd. 5686 (1997), 62 FR 13540 (March 21, 1997).

Third Report and Order and Second Further Notice of Proposed Rule Making, FCC 97-413, 13 FCC Rcd. 374 (1997), 63 FR 2315 (Jan. 15, 1998). *Erratum*, 13 FCC Rcd. 4621 (1998).

C. Implementation of Section 309(j) of the Communications Act -- Competitive Bidding. PP Docket No. 93-253

Second Report and Order, FCC 94-61, 9 FCC Rcd. 2348 (1994), 59 Fed. Reg. 22980 (May 4, 1994); and Erratum (released May 12, 1994).

Order on Reconsideration, FCC 94-217, 9 FCC Rcd. 4493 (1994), 59 Fed. Reg. 43062 (Aug. 22, 1994).

Order on Reconsideration, FCC 94-240, 9 FCC Rcd. 5306 (1994), 59 Fed. Reg. 50509 (Oct.

4, 1994).

Fifth Report and Order, FCC 94-178, 9 FCC Rcd. 5532 (1994), 59 Fed. Reg. 37566 (July 22, 1994).

Fourth Memorandum Opinion and Order, FCC 94-264, 9 FCC Rcd. 6858 (1994), 59 Fed. Reg. 53364 (Oct. 24, 1994).

Second Memorandum Opinion and Order, FCC 94-215, 9 FCC Rcd. 7245 (1994), 59 Fed. Reg. 44272 (Aug. 26, 1994); and Erratum, Mimeo No. 50278 (Oct. 19, 1994).

Memorandum Opinion and Order, FCC 94-295, 9 FCC Rcd. 7684 (1994), 59 Fed. Reg. 64159 (Dec. 13, 1994).

Fifth Memorandum Opinion and Order, FCC 94-285, 10 FCC Rcd. 403 (1994), 59 Fed. Reg. 63210 (Dec. 7, 1994); and Erratum, DA 95-15 (Jan. 10, 1995), 60 Fed. Reg. 5333 (Jan. 27, 1995).

D. Summary listing of documents from the Commission and the Wireless Telecommunications Bureau addressing application of the anti-collusion rules

To date, discussion concerning the anti-collusion rules may be found in the following Commission and Bureau documents:

The following documents can be found at an FCC web site:
http://www.fcc.gov/wtb/auctions/collusio/collusio.html

Commission Decisions:

Second Report and Order in PP Docket No. 93-253, FCC 94-61, 9 FCC Rcd. 2348, 2386-2388 (1994), paragraphs 221-226.

Fifth Report and Order in PP Docket No. 93-253, FCC 94-178, 9 FCC Rcd. 5532, 5570-5571 (1994), paragraphs 91-92.

Fourth Memorandum Opinion and Order in PP Docket No. 93-253, FCC 94-264, 9 FCC Rcd. 6858, 6866-6869 (1994), paragraphs 47-60.

Second Memorandum Opinion and Order in PP Docket No. 93-253, FCC 94-215, 9 FCC Rcd. 7245, 7253-7255 (1994), paragraphs 48-55.

Memorandum Opinion and Order in PP Docket No. 93-253, FCC 94-295, 9 FCC Rcd. 7684, 7687-7689 (1994), paragraphs 8-12.

In re Commercial Realty St. Pete, *Notice of Apparent Liability for Forfeiture*, 10 FCC Rcd. 4277 (1995).

In re Applications of Mercury PCS II, LLC, *Notice of Apparent Liability for Forfeiture*, 12 FCC Rcd. 17970 (1997).

Amendment of Part 1 of the Commission's Rules -- Competitive Bidding Procedures, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, WT Docket No. 97-82, ET Docket No. 94-32, FCC 97-413, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd. 374, 463-469 (1997), paragraphs 155-166.

In re Application of US West Communications, Inc., *Notice of Apparent Liability for Forfeiture*, FCC 98-41 (March 16, 1998).

In re Application of Western PCS BTA I Corporation, *Notice of Apparent Liability for Forfeiture*, FCC 98-42 (March 16, 1998).

Wireless Telecommunications Bureau Decisions:

Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, *Order*, 11 FCC Rcd. 9655 (Wireless Tel. Bur. 1995).

In re Applications of GWI PCS, Inc. For Authority to Construct and Operate Broadband PCS Systems Operating on Frequency Block C, *Memorandum Opinion and Order*, 12 FCC Rcd. 6441 (Wireless Tel. Bur. 1997).

In re Applications of Mercury PCS II, LLC, For Facilities in the Broadband Personal Communications Services in the D, E, and F Blocks, *Memorandum Opinion and Order on Reconsideration*, 12 FCC Rcd. 18093 (Wireless Tel. Bur. 1997).

In the Matter of Applications of High Plains Wireless, L.P., For Authority to Construct and Operate Broadband PCS Systems on Frequency Blocks D, E, and F, *Memorandum Opinion and Order*, 12 FCC Rcd. 19627 (Wireless Tel. Bur. 1997).

In the Matter of Applications of Mercury PCS II, LLC, For Authority to Construct and Operate Broadband PCS Systems on Frequency Blocks D, E, and F, *Memorandum Opinion and Order*, 13 FCC Rcd. 5756 (Wireless Tel. Bur. 1997).

Public Notices:

"Wireless Telecommunications Bureau Clarifies Spectrum Auction Anti-Collusion Rules," *Public Notice*, 11 FCC Rcd. 9645 (1995).

"FCC Staff Clarifies Application of Anti-Collusion Rule to Broadband PCS 'C' Block Reauction," *Public Notice*, 11 FCC Rcd. 7031 (1996).

"Wireless Telecommunications Bureau Provides Guidance on the Anti-Collusion Rule for D, E and F Block Bidders," *Public Notice*, 11 FCC Rcd. 10134 (1996).

Letters from the Office of General Counsel and the Wireless Telecommunications Bureau:

Letter to Gary M. Epstein and James H. Barker from William E. Kennard, General Counsel, Federal Communications Commission (released October 25, 1994).

Letter to Alan F. Ciamporcero from William E. Kennard, General Counsel, Federal Communications Commission (released October 25, 1996).

Letter to R. Michael Senkowski from Rosalind K. Allen, Acting Chief, Commercial Radio Division, Wireless Telecommunications Bureau (released December 1, 1994).

Letter to Leonard J. Kennedy from Rosalind K. Allen, Acting Chief, Commercial Radio Division, Wireless Telecommunications Bureau (released December 14, 1994).

Letter to Jonathan D. Blake and Robert J. Rini from Kathleen O'Brien Ham, Chief, Auctions Division, Wireless Telecommunications Bureau, DA 95-2404 (released November 28, 1995).

Letter to Mark Grady from Kathleen O'Brien Ham, Chief, Auctions Division, Wireless Telecommunications Bureau, 11 FCC Rcd. 10895 (1996).

Letter to David L. Nace from Kathleen O'Brien Ham, Chief, Auctions Division, Wireless Telecommunications Bureau, 11 FCC Rcd. 11363 (1996).

Letter to Elliott J. Greenwald from Christopher J. Wright, General Counsel, Federal Communications Commission (released April 6, 1998).

NOTE: Many of these documents can be retrieved from the FCC web site (http://www.fcc.gov), where documents may be located by using our search engine (select the link "search"). All of these documents can be ordered in hard copy from the Commission's contractor, International Transcription Service, Inc. at 202-857-3800.

Documents retrieved from the FCC web site are available in more than one format: .pdf, .txt, and .wp. (The key to the extensions is the following: .pdf = Acrobat Reader, .txt = Text, and .wp = Word Perfect.) In order to review a document in its entirety, including footnotes, it is necessary to access the document in Word Perfect or Acrobat Reader.