

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 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

⁸⁸ Metricom Comments at 10.

⁸⁹ Pagenet Comments at 9-10.

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

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 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

⁹¹ Metricom Comments at 10.

⁹² Pagenet Comments at 10.

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

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

(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 rules⁹⁸ as well

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.

as those entities 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:

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

(b) *Comments*

60. Several commenters favor the continued allocation of spectrum for public 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 Comtech¹⁰⁷ 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

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

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*).

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 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

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*).

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.

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 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

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.

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).

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 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

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.

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.

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. 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,

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.

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 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

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).

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.

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).

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 as 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

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.

areas defined as "Economic Areas" ("EAs") by the Bureau of Economic Analysis (BEA), Department of Commerce ("EA 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*

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.

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 required for 800 MHz SMR EA licensees¹⁵⁰ -- 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 licensees¹⁵² -- 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

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.

identified in Appendix E¹⁵⁴ 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

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

¹⁵⁴ The six geographic areas for Regional 220 MHz licensing are referred to as Regional Economic Area Groupings (REAGs). See Appendix E.

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; 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

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.

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-channel 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

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.

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 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

¹⁶⁴ 220 MHz Report and Order, 6 FCC Rcd at 2358 (para. 16).

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.

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 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 licensees¹⁷⁴ and are proposing to allow all 220 MHz licensees to disaggregate their spectrum.¹⁷⁵

¹⁷² AMTA Comments at 14. *See also* Incom's Reply Comments, supporting this proposal. Incom Reply Comments at 4.

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

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.

advantage on Phase I licensees, while inflicting substantial competitive harm on operators licensed to provide paging in the 150, 450 and 900 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

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.

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 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

¹⁸⁸ *Third Notice*, 11 FCC Rcd at 231 (para. 87).

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).

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 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

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.

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. See 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.