61. For these reasons, we believe the public interest is best served by continuing the allocation of licenses on 10 MHz channel blocks in addition to the 30 MHz licenses. We must limit the number of 10 MHz blocks to three for any given area, however. We are constrained because we also want to reserve spectrum for other uses such as MSS and unlicensed PCS. Allowing the flexibility to aggregate spectrum blocks of different size will help ensure that efficient providers succeed. We believe that 120 MHz will provide sufficient spectrum to promote competition rapidly and that flexibility in the provision of service will provide incentives for efficient use of the spectrum.

62. In sum, we believe that a band plan that provides for three 30 MHz licenses and three 10 MHz licenses, all in the lower band, compared to our earlier plan, will better ensure that PCS services are available promptly and competitively to the American public.

3. Aggregation and Disaggregation

63. A number of petitioners request clarification of, or changes to, our policies regarding the aggregation or subdivision of PCS spectrum and PCS service areas. In the Second Report and Order, we limited any party's ability to aggregate PCs spectrum to an attributable interest in 40 MHz.[74] Companies that were deemed to hold attributable interests in cellular license(s) covering 10 percent or more of the population in a PCS service area were limited to holding a single 10 MHz PCS license in that area.[75] We did not address the issue of whether we would allow disaggregation of spectrum.

64. Comcast requests clarification that the 40 MHz aggregation limit applies only to PCS spectrum.[76] PNSC submits that certain PCS licensees should be permitted to aggregate more spectrum than that allowed under the current plan. It recommends that BTA licensees in areas with populations between 200,000 and 999,999 be permitted to aggregate up to 60 MHz and that cellular carriers serving markets with populations of one million or less be permitted to aggregate up to 20 MHz. PNSC further urges that no limit be set on aggregation of spectrum in areas with populations less than 200,000. PNSC questions the viability of seven PCS licensees and states that rural BTA licensees should be permitted to aggregate more spectrum because they are at a competitive disadvantage vis-a-vis MTA licensees.[77] It contends that if we do not raise the aggregation limit, we should adopt a channeling plan that provides for three 30 MHz MTA licenses, with one set-aside for designated entities, and three 10 MHz BTA licenses, with one set-aside for designated entities.

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[74] See Second Report and Order at ¶ 61.

[75] Id. at ¶ 106.

[76] See Comcast Petition at 15.

[77] See PNSC Petition at 5-8.

65. PCS Action and Time Warner request that PCS licensees be permitted to aggregate up to 40 MHz of spectrum in the lower band through leasing, joint ventures, consortia, or other means.[78] They contend that this would eliminate the need for licensees to use more expensive equipment capable of operating in both the upper and lower bands. CTIA does not object to the overall 40 MHz limit on PCS ownership. However, it requests that cellular licensees be subject to the 40 MHz limit and that they be allowed to acquire up to 15 MHz of PCS spectrum. Thus, CTIA argues that, in addition to the right to bid on a 10 MHz channel, cellular operators should be permitted to acquire an additional 5 MHz either through bidding and subsequent divestiture or after the auction.[79] BellSouth and Point suggest a uniform 45 MHz aggregation limit that would apply to the total spectrum used by an entity for all the mobile communications services it provides in a given area, including, cellular, SMR, wide-area SMR and PCS.[80] BellSouth argues that the current approach limits cellular providers to an additional 10 MHz of PCS or a total of 35 MHz of spectrum while enhanced SMRs can acquire up to 40 MHz of PCS spectrum or a total of 59 MHz of spectrum.[81]

66. Decision. We believe that the 40 MHz limit for PCS spectrum is appropriate. No new information has been presented to indicate that each licensee in a market would require more than 40 MHz to provide broadband PCS service. Although at least one party argued that this limit should be amended to allow greater aggregation in rural areas, we do not believe that greater aggregation is needed.[82] In particular, the demand in rural areas is expected to be sufficiently low that there should be no need for more than 40 MHz by any one provider. If demand in rural areas is not sufficient to meet than 40 MHz of spectrum to one entity, it would be preferable to have additional competitors serve these customers rather than to license more than 40 MHz of spectrum to one entity.

67. One of our goals in this proceeding is to promote competitive delivery of wireless services. As a result, we feel that not only is an overall cap on PCS spectrum important to prohibit excessive spectrum aggregation, but that a comparable separate limit should be placed on cellular providers since they already hold 25 MHz of clear spectrum and already have a large number of existing wireless customers. To ensure competitive parity, cellular carriers will be subject to an overall spectrum cap of 35 MHz for their combined PCS and cellular spectrum. We are persuaded by the argument, raised by a number of parties, that because of cellular's "headstart" in the wireless telephone market, existing infrastructure and large base of customers, cellular carriers might be able to dominate the wireless market if they receive more

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[78] See PCS Action Petition at 39; Time Warner Petition at 8.

[79] See CTIA Petition at iii.

[80] See BellSouth Petition at 15-17; Point Petition at 3.

[81] See BellSouth Petition at 15-17.

[82] See PNSC Petition at 8.

than 10 MHz of PCS spectrum.[83] We also recognize that new entrants face a possibly lengthy process to relocate existing microwave users so they can use all of their spectrum. Cellular carriers already have 25 MHz of clear spectrum in operation whereas new entrants may have to relocate microwave users to gain access to that much spectrum, even if they acquire 40 MHz at the auction. In addition, we are concerned that additional spectrum acquired by cellular entities may reduce the amount of spectrum available to new entrants and increase the costs to new entrants. To promote the ability of new entrants to acquire spectrum and rapidly begin service as strong competitors to in-region cellular carriers, we have decided to continue to permit cellular carriers to acquire and hold only a single 10 MHz license in any PCS service area where they are considered in-region. (See Cellular Eligibility section infra). However, because we realize that as competitive PCS offerings are implemented, the market advantages enjoyed by cellular carriers should decrease, we will allow cellular carriers to acquire an additional 5 MHz after January 1, 2000. This will allow cellular carriers to acquire the same total amount of spectrum (40 MHz) as other entities. Limiting in-region cellular carriers to 10 MHz of PCS spectrum for five years will not disadvantage them relative to the new entrants who must contend with microwave relocation over their entire spectrum block(s) and do not necessarily have an established customer base or comparable infrastructure advantages.[84]

68. We reject the contention BellSouth and Point that the aggregation limit be raised to 45 MHz to permit cellular entities to acquire an additional 20 MHz. If we were to allow such aggregation to 45 MHz through the disaggregation of 30 MHz blocks, the number of full service competitors could be reduced to the detriment of realizing the goals we have set forth for PCS. If we were to allow aggregation to 45 MHz through the aggregation of 10 MHz blocks, there would not be enough blocks to assure both full cellular participation and the participation of other parties who desire 10 MHz licenses. We conclude that 40 MHz remains an appropriate limit on PCS spectrum because it protects the competitive structure, provides sufficient spectrum for efficient provision of wireless services, and encourages a wide diversity of firms to participate in the industry. Furthermore, we are seeking comment in another proceeding as to whether and how our aggregation limit may be applied uniformly to all mobile communications providers. We find that extending the PCS spectrum aggregation limit to include other mobile services, such as SMR and wide-area SMR services, is beyond

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[83] See Letter from PCS Action to the FCC (May 27, 1994). Many other parties, including one company with existing cellular holdings, expressed concern that allowing in-region cellular carriers to acquire additional spectrum would lead to a market dominated by cellular carriers. See Letter from US West to the FCC (June 1, 1994); Letter from MCI to the FCC (May 26, 1994); Letter from Time Warner to the FCC (May 27, 1994).

[84] Because we are prohibiting spectrum disaggregation until the year 2000, cellular entities will have an opportunity to acquire 5 MHz of additional spectrum at that time.

the scope of this proceeding. We therefore intend to address issues relating to spectrum aggregation across other commercial mobile radio services in a separate proceeding.[85]

69. Although, as stated above, we believe spectrum disaggregation should be permitted, we are concerned that initially, there may be anticompetitive incentives to disaggregate spectrum. Two or three entities might purchase a viable 30 MHz license and disaggregate it to reduce the number of new entrants. Thus, we will permit disaggregation of spectrum by any licensee only after it meets the five year construction requirement. The five year point will allow the PCS market to take shape. Entities desiring to use small amounts of spectrum before the prohibition on disaggregation ends can either purchase the 10 MHz blocks of spectrum if they wish to provide service using less than 30 MHz or enter into joint ventures or resale arrangements to facilitate their access to spectrum. We expect to conduct a further proceeding to specify the rules for spectrum disaggregation, which will also explore the possibility of permitting disaggregation for other commercial mobile radio services.

70. We agree with the suggestions of the petitioners and responding parties that PCS entities should eventually be permitted to disaggregate spectrum. We feel that, in the future, disaggregation will complement the three 30 MHz and three 10 MHz channel plan by allowing subdivision of spectrum blocks where service providers find that economic or other conditions warrant it. Allowing spectrum disaggregation, even if it is prohibited until the first construction benchmark, will provide appropriate incentives for service providers to conserve their use of spectrum and to invest in spectrum conserving technologies. Because PCS licensees have paid for the use of the spectrum and have the ability to sell it in the future, they should be especially sensitive to the value of the resource they are using and will be motivated to ensure that it is used in the most valuable way.

71. In determining the appropriate placement of the 10 MHz blocks within the lower band, we seek to promote the development of an efficient market structure and to ensure that no subset of license has any inherent competitive disadvantage due to placement of licenses in the band plan. In particular, we must consider the benefits of aggregating the 30 MHz blocks with the 10 MHz blocks compared to the benefits of aggregating the 10 MHz blocks themselves. Interspersing the 10 MHz blocks between each 30 MHz block facilitates aggregation to 40 MHz by allowing combination of each contiguous 30 MHz and 10 MHz license pair. This also facilitates relocations of the existing fixed microwave operations by matching fixed microwave channels with PCS channels. This will keep to a minimum the number of parties responsible for each relocation which will reduce relocation negotiation, timing and costs. On the other hand, keeping all 10 MHz licenses contiguous would allow more efficient aggregation of these licenses as a substitute strategy for obtaining one of the three 30 MHz block. We conclude that interspersing the 10 MHz licenses between the 30 MHz licenses to permit efficient aggregation up to 40 MHz should the market favor that

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[85] See Further Notice of Proposed Rule Making, GN Docket No. 93-252, FCC 94-100, released May 20, 1994.

outcome is the best approach. Recognizing that aggregation of the 10 MHz licenses may be attractive to some parties, however, we are also making two of the 10 MHz licenses contiguous so as to permit this aggregation to 20 MHz, should some parties favor 20 MHz over 30 MHz. (See Cellular Eligibility infra.)

4. Service Areas

72. In the Second Report and Order, we specified that the two 30 MHz blocks would be licensed on an MTA basis. We also specified that the 20 MHz block and four 10 MHz blocks would be licensed on a BTA basis.[86] We adopted this plan to promote the rapid deployment and ubiquitous coverage of PCS and felt that these areas would follow the natural flow of commerce.[87]

73. A number of petitioners request changes in the service areas designated for PCS blocks. Pegasus, for example, requests that the Commission adopt a Mayaguez/Aguadilla-Ponce BTA separate from the San Juan BTA. Pegasus argues that Puerto Rico should comprise two BTAs because the two areas are split geographically by mountains.[88] In addition, DWMP points out that some rural BTAs are larger than a small MTA and that it would be unreasonable to ask a rural PCS provider to meet the construction requirements in these sparsely-populated areas. DWMP requests that we specify smaller service areas.[89] Other parties, such as Killen and NTCA, favor use of the MSA/RSA service areas that are used for cellular licenses.[90] Point Communications states that either BTAs or the cellular MSA/RSA service areas should be used for PCS, arguing that all PCS should be licensed on the same service area basis.[91] CTIA and Nextel suggest that all licensing be based on BTA service areas.[92] Nextel believes that MTA service areas will result in poor build-out and lack of service in rural locations.[93] BellSouth submits that the six 20 MHz blocks it suggested

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[86] See Second Report and Order at ¶ 76.

[87] Id. at ¶ 73.

[88] See Pegasus Petition at 1-2.

[89] See DWMP Petition at 3.

[90] See Killen Petition at 1-3, NCTA Petition at 1-8. There are 306 Metropolitan Statistical Areas (MSAs) and 428 Rural Service Areas (RSAs). See 47 C.F.R. §22.2.

[91] See Point Petition at 2-4.

[92] See CTIA Petition at 9-10, Nextel Petition at 11-13.

[93] See Nextel Petition at 12.

should be licensed on a BTA basis.[94] BellSouth argues that MTAs are inappropriate because they would result in a lack of parity among competitors, and uniform initial spectrum blocks and service areas would encourage competition and give effect to market forces.

74. At the PCS Public Forum held on April 11 and 12, 1994, Dr. C. J. Waylon of GTE submitted that MTA coverage offers large geographic service areas that would enhance competition with existing cellular service providers.[95] Mark Roberts of Alex Brown and Co. also voiced support for the larger MTA service areas.[96] However, some parties, such as George Murray, felt that all blocks should be licensed on a BTA basis to provide an opportunity for small entrants to compete on an equal footing with other PCS providers.[97]

75. Decision. We have decided to retain the geographic license areas definitions for PCS licenses, adopted in our Second Report and Order. We reject the arguments that all licenses should have the same geographic scope, as in NTIA's proposal to use the Department of Commerce Economic Areas.[98] We also reject a re-drawing of the boundaries along cellular MSA/RSA lines as proposed by Killen, NTCA, and Point.[99]

76. We reject the use of cellular MSA/RSA boundaries for a number of reasons. The ten year history of the cellular industry provides evidence generally that these service areas have been too small for the efficient provision of regional or nationwide mobile service. The large transaction costs to aggregate MSAs and RSAs that have been incurred over the past ten years in the cellular industry have frequently been directed towards geographic aggregation to provide wider service areas for consumers and to lower costs of providing service. Rather than forcing replication of this costly and time-consuming process, we are beginning with larger service areas, which we expect to minimize the need for costly post-auction transactions. We also hope to spur market competition from new PCS providers by starting with larger initial geographic service areas to alleviate the cellular headstart advantage.[100] We realize that the MTA and BTA license boundaries do not coincide with existing cellular

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[94] See BellSouth Petition at 17.

[95] See Transcripts of the PCS Public Forum at 82-83 (April 11, 1994).

[96] See Transcripts of the PCS Public Forum at 439 (April 11, 1994).

[97] See Murray Petition at 4-8.

[98] See Letter from NTIA to the FCC at 2 (May 31, 1994).

[99] See Killen Petition at 1-3; NTCA Petition at 1-8; Point Petition at 2-4.

[100] CTIA states that as of year-end 1993, cellular companies served more than 16 million subscribers and had invested nearly $14 billion in building their systems. Letter from CTIA to the FCC (April 29, 1994).

license boundaries, but feel that the costs imposed by these different license boundaries will be outweighed by the benefits of larger initial service areas. We are cognizant of problems created by overlaps between the PCS and cellular service areas, and provide some relief from these problems. (See Cellular Eligibility, infra.)

77. We also are rejecting the suggestion that all licenses should have the same geographic scope whether MTAs (as proposed by PCS Action), BTAs (as proposed by BellSouth, CTIA, and Nextel) or Department of Commerce Economic Areas (proposed by NTIA). While identical geographic areas may impose more initial competitive parity, we do not believe that this will maximize competitiveness and participation in the provision of PCS services. Licensing all blocks on an MTA basis might increase competitiveness with cellular, but it would limit the ability of cellular companies and designated entities to participate in the provision of PCS. Cellular companies could be restricted because of overlaps with MTAs that might not occur with BTAs. Designated entities are likely to be better able to finance the construction of PCS across a BTA than an MTA. Thus, by licensing some blocks on a BTA basis, we comply with Congress' directive that we prescribe area designations that promote economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and business owned by members of minority groups and women.[101]

78. We therefore continue to feel that a combination of MTA and BTA licenses will give licensees the opportunity to select and combine service areas and promote broad participation in the provision of PCS services by firms of various sizes. Licensing two of the 30 MHz blocks on an MTA basis will permit these licensees to operate in large service areas which will facilitate interoperability and roaming across wide geographic areas. Licensing the third 30 MHz block on a BTA basis will not preclude such efficiencies because of the ability to aggregate licenses geographically. In addition, in much the same way as the variety of spectrum block sizes allows various strategies, the variety of geographic sizes will allow firms to determine the optimal geographic strategy they wish to pursue. This will also help us to meet the statutory objectives of disseminating licenses to a wide variety of licensees.[102] In addition, allocating four of the six licenses on a BTA basis addresses the concern that rural buildout would not occur with MTA licenses.

79. Finally, we concur with Pegasus' suggestion with regard to the Puerto Rico service area and will provide two separate BTA service areas in Puerto Rico, one for Mayaguez/Aguadilla-Ponce and the other for San Juan. This action recognizes the difficulties created by the mountain range separating these two areas. No parties opposed this request and we find this adjustment to be in the public interest.[103]

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[101] See 47 U.S.C. § 309 (j)(4)(C).

[102] See 47 U.S.C. § 309(j)(3)(B). See also Alliance Petition at 2-3; Columbia Petition at 2-3; NTCA Petition at 3; RCA Petition at 2, 7; Intelco Petition at 7.

[103] See Pegasus Petition at 10.

5. Geographic Partitioning

80. In its petition, McCaw asks us to permit applicants to subdivide PCS blocks and service areas.[104] McCaw states that this would allow parties to bid jointly for PCS BTA and MTA licenses, and then subdivide the PCS operating authority on either a geographic or spectrum basis. It states that this approach would diminish the disadvantages created by using MTAs and BTAs rather than the significantly smaller cellular MSA and RSA service areas. This would allow cellular entities to offer PCS services in areas where they do not provide cellular service and yet would not qualify for licensing in the entire PCS service area.

81. Several parties responding to the petitions favor allowing partitioning of PCS service areas. For example, AIDE, CTIA and McCaw state that geographic and spectrum partitioning will promote efficient use of the spectrum and will encourage service in rural areas.[105] AMT submits that partitioning will offer flexibility to PCS providers.[106] GTE states that partitioning will expedite the introduction of new services, promote participation in PCS, and allow PCS to serve niche markets.[107] Finally, CUC recommends that the Commission allow partitioning only within a specified time after licensing to ensure universal deployment of PCS and prevent licensees from warehousing spectrum that they do not intend to utilize.[108]

82. Other responding parties oppose allowing geographic partitioning. For example, GCI and MCI argue that interested parties should form consortia to provide uniform service across areas instead of dividing the allotments.[109] GCI, MCI and Nextel argue that allowing geographic partitioning would inject additional variables into the initial auction process and complicate the development of an orderly post-auction market.[110] MCI contends that to avoid manipulation and evasion of the construction requirements, voluntary partitioning should be limited to geographic sizes no smaller than a BTA with no less than 10 MHz of spectrum, pending examination of the feasibility of smaller partitions in a separate rule making.[111]

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[104] See McCaw Comments at 2-24.

[105] See AIDE Comments at 5; CTIA Comments at 16; McCaw Comments at 2-24.

[106] See AMT Comments at 2-3.

[107] See GTE Comments at 9-10.

[108] See CUC Comments at 12.

[109] See GCI Comments at 15-16; MCI comments at 3-5.

[110] See GCI Comments at 15-16; MCI comments at 3-5; Nextel Comments at 13-14.

[111] See MCI Comments at 3-5.

83. Decision. We agree with the parties that oppose permitting geographic partitioning at this time. We find that there is a significant risk that partitioning can be used to circumvent construction requirements. While there may be efficiency enhancing geographic partitions, much of the benefit can be obtained through other arrangements that do not raise the same concerns about circumvention of our construction rules.[112] On balance, we conclude that we should not adopt a policy allowing general geographic partitioning, but recognize that the balance may be different for particular groups of service providers, such as rural telephone companies or to create PCS ownership opportunities for companies owned by minorities or women. Therefore, we will consider the issue of geographic partitioning for rural telephone companies and other designated entities in our forthcoming Order, to adopt specific competitive bidding rules for broadband PCS in PP Docket No. 93-253.[113] There we will address other designated entity preferences and will rely on the record in both proceedings in making our final determinations on this matter. Also, we will address whether we should recover the unserved PCS areas at the end of the ten-year construction period, in a later proceeding after we have had an opportunity to assess the scope of system build-outs.

6. Unlicensed Devices

84. In developing a band plan for PCS, we have had to weigh the spectrum requirements of licensed PCS with the amount of spectrum allocated for unlicensed PCS. For reasons described above, the new band plan moves all of licensed PCS to the lower band. As a result of this change, we have had to reduce the amount of spectrum available for the operation of unlicensed PCS devices from 40 to 20 MHz. This is the amount of spectrum we originally proposed for unlicensed devices. Despite having less spectrum available for unlicensed PCS devices in the near term, we believe the new band plan will have an overall positive effect for consumers in terms of the diversity and utility of unlicensed devices available on the market, as well as the rapid deployment of competitive licensed PCS Services.

85. One reason we reach this conclusion is that even without this change it is unlikely that the 20 MHz reallocated to licensed from unlicensed would have been used in the near term for unlicensed. The spectrum at 1890 to 1910 MHz was regarded as less desirable than the 20 MHz retained for unlicensed PCS at 1910-1930 MHz because it contains significantly more microwave incumbents.[114] Our expectation was that unlicensed devices first would operate on the 1910-1930 MHz spectrum because the cost of clearing this spectrum is

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[112] See GCI Comments at 15-16; MCI Comments at 3-5; Nextel Comments at 13-14.

[113] We recognize that we stated in an earlier order that the issue of geographic partitioning by rural telephone companies would be addressed in this order, but we now believe that this issue should be addressed with other issues regarding designated entities. See Second Report and Order in PP Docket No. 93-253 at ¶ 243.

[114] See Transcripts of the PCS Public Forum at 11-12 (April 12, 1994):

significantly less. Licensed PCS providers, by contrast, provide ample evidence in the record that they are ready to begin the relocation of microwave incumbents in the lower band and provide service in the near term and can use the spectrum from 1890-1910 MHz rapidly. Thus, consumers are more likely to obtain immediate benefits if we allocate this spectrum to licensed PCS rather than for unlicensed PCS devices.

86. Another benefit of the new band plan is that the licensed and unlicensed PCS spectrum will be located in close proximity on the lower band. Consumers will have more choices for equipment that operates on both unlicensed and licensed PCS bands, and will not have to buy higher-priced equipment that operates on both the lower and upper PCS bands to have available the full array of service options with a single piece of equipment. Finally, we intend that the initial 20 MHz allocation for unlicensed PCS devices meet the near term spectrum requirements for unlicensed devices.[115] To consider the long-term spectrum requirements of unlicensed PCS devices, we intend to issue a Notice of Proposed Rule Making in the near future to identify additional spectrum for unlicensed PCS devices.

87. For the reasons set forth above, therefore, we conclude that consumers and manufacturers of equipment intended for use on the unlicensed band will benefit from the new band plan. This does not diminish our concern that there be sufficient spectrum allocated for unlicensed PCS devices to accommodate expected demand, and therefore as noted above, we are committed to instituting a further rule making for this purpose to meet the long term requirements for unlicensed PCS devices, including those potential unlicensed uses that may not be accommodated readily in the initial 20 MHz allocation.

B. Private Use

88. In their petitions, UTC and APCO request that we set aside a portion of the licensed PCS spectrum for private PCS operations such as public safety or internal company use.[116] UTC argues that essential public services and private industries require advanced mobile/portable communications capabilities that cannot be provided by commercial PCS. Further, UTC states that the current rules preclude the development of such private systems. UTC also states that for private users: 1) 10 MHz channels are too large for a single licensee's requirements; 2) the construction requirements are impractical and inappropriate; 3) the service areas do not correspond to the service territories of private entities; and 4) competitive bidding is inappropriate for public safety and private systems.[117] APCO agrees, and argues that public safety agencies need spectrum for new life-saving

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[115] We agree that both unlicensed asynchronous and isochronous devices may need additional spectrum in the near future. See Transcripts of the PCS Public Forum at 10 (April 12, 1994).

[116] See UTC Petition at 2-4; APCO Petition at 4-6.

[117] See UTC Petition at 2-4.

communications technologies that will not, and cannot, be provided by carrier-based services such as PCS. APCO states that Congress repeatedly has mandated that radio services that are necessary for the safety of life and property deserve special consideration in the allocation of spectrum.[118]

89. Several parties, including APC, MCI, Sprint, PCIA and TDS, oppose allocation of PCS spectrum for the private use of utilities and public-safety organizations.[119] These parties argue that private organizations will have full access to unlicensed PCS and that PCS licensees will have incentives to structure systems for the internal use of private organizations. Sprint states that reducing the amount of spectrum available for commercial PCS licenses would compromise the competitiveness and viability of PCS. Sprint also notes that providing emerging technology spectrum for private use would not provide auction revenue for the government. On the other hand, API and ITA support a separate spectrum allocation for "private PCS" systems, arguing that many private communications operations cannot be transferred to public systems due to service reliability concerns.[120]

90. Decision. We agree with the parties who argue that both commercial PCS service and unlicensed PCS devices will be able to meet many of the communications requirements of private entities. The PCS licensees will be permitted to tailor specific service applications to the particular needs of individual organizational customers. Any such service applications, of course, must be consistent with policies we have established for the regulation of commercial mobile radio services under Title II of the Communications Act.[121] Such applications could include the use of dedicated capacity. Where such arrangements might not be satisfactory, entities desiring spectrum solely for internal private use could, of course, bid for licensed PCS

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[118] See APCO Petition at 4-6.

[119] See APC Comments at 3; MCI Comments at 6; Sprint Comments at 5-6; PCIA Reply at 2; TDS Comments at 13.

[120] See API Comments at 8-9; ITA Comments at 4-5.

[121] See CMRS Second Report and Order, 9 FCC Rcd at 1439 n.130:

> The terms and conditions for different classes of customers may, of course, vary. Whether such differences are lawful would be a question of whether there is unreasonable discrimination under Section 202(a) of the [Communications] Act. In the case of individualized or customized service offerings made by CMRS providers to individual customers, it is our intent to classify and regulate such offerings as CMRS, regardless of whether such offerings would be treated as common carriage under existing case law, if the service falls within the definition of CMRS.

spectrum individually or as a group intending to share the licensed facilities.[122] Companies that value private use of the spectrum highly could win a license at auction; otherwise they could contract with a licensee to provide the services they need, or procure such services from resellers. Moreover, as many commenters argue, we believe that setting aside spectrum for private interests would not help us achieve the goals set forth for PCS, and at the same time, could detrimentally affect competitive service provision and the efficient allocation of scarce spectrum resources. Also, the extent to which additional spectrum is required for private and public safety use is being considered in a separate proceeding that addresses allocation of spectrum below 5 GHz transferred from Federal government use.[123] Accordingly, we will deny UTC's and APCO's requests that we set aside a portion of the spectrum allocated to PCS exclusively for private PCS operations.

C. Mobile Satellite Services (MSS) Issues

91. AMSC, Comsat, and TRW argue for preservation of the 2180-2200 MHz band for future allocation to MSS.[124] The petitioners oppose allocation of spectrum to PCS that has been allocated internationally to MSS, contending that such allocation is inconsistent with the

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[122] We also note that, while broadband PCS is presumptively classified as a Commercial Mobile Radio Service (CMRS), parties acquiring licenses may request Private Mobile Radio Service (PMRS) classification if they meet our requirements. See CMRS Second Report and Order at ¶ 39.

[123] See Notice of Inquiry, ET Docket No. 94-32, 9 FCC Rcd 2175 (1994). This proceeding addresses, inter alia, a Petition for Rule Making filed by the Coalition of Private Users of Emerging Multimedia Technologies (COPE) for the development of an "Advanced Private Communications Service," using 75 of the 200 MHz to be transferred to our jurisdiction from Federal government spectrum in compliance with the terms of the Omnibus Budget Reconciliation Act of 1993.

[124] The 1992 World Administrative Radio Conference of the International Telecommunications Union (WARC-92) allocated 80 MHz of spectrum to MSS in the bands 1970-2010 MHz and 2160-2200 MHz while retaining the existing fixed and mobile allocations in those bands. Petitions from MSS interests seek removal of the PCS allocation from the 2180-2200 MHz band to preserve the option of allocating that band domestically to MSS. In 20 MHz (the 1970-1980 MHz and 2160-2170 MHz bands) of this spectrum, MSS is limited to Region II (generally countries in the Western Hemisphere); in the remaining 60 MHz (1980-2010 MHz and 2170-2200 MHz), the MSS allocation is worldwide. In the Second Report and Order, the Commission allocated 20 MHz (2180-2200 MHz) of this spectrum to PCS and retained the existing U.S. allocations in the remaining 60 MHz (the bands 1970-1990 MHz and 2160-2180 MHz were held in reserve for future emerging technologies, and the existing broadcast auxiliary allocation was maintained in the 1990-2010 MHz band). The WARC-92 allocation pairs 2180-2200 MHz for transmission from the satellite (downlink) with 1990-2010 MHz for transmission from subscribers (uplink).

United States' support for these allocations at WARC-92 and impedes the introduction of global MSS. In their comments, AMSC claims that since sharing between MSS and the Broadcast Auxiliary Service in the 1990-2010 MHz band may be possible, the MSS paired frequencies at 2180-2200 MHz should not be allocated to PCS.[125] Comsat and TRW argue that the Notice did not propose to consider allocation to PCS of the 2180-2200 MHz band and that parties were therefore denied the opportunity to comment fully on this issue.[126] TRW argues that we should reallocate the entire 1970-2010 MHz and 2160-2200 MHz bands to MSS to match the international allocations. To preserve at least the worldwide MSS allocations, TRW suggests that the four 10 MHz PCS blocks in the 2130-2150 MHz and 2180-2200 MHz bands be relocated to the 2110-2150 MHz band.[127] Motorola also filed a petition stating that, while it supports allocation of sufficient spectrum for terrestrial PCS, the Commission should initiate a separate proceeding to identify and allocate additional spectrum outside the PCS bands for MSS.[128]

92. Most responding parties oppose the petitioners' requests that additional spectrum be reserved for MSS. MCI, Sprint, UTC, API and Bell Atlantic oppose reallocating any of the PCS spectrum to MSS. API and UTC state that while MSS can offer a wide range of valuable services, an adequate spectrum reserve for the development of MSS has been established and no more should be allocated.[129] MCI states that, to the extent the Commission believes there may be a future need for additional MSS spectrum, the Commission should initiate a separate proceeding to identify and allocate other bands for MSS.[130] UTC argues that the over 100 MHz allocated for MSS is more than sufficient.[131] It contends that the petitioners' real concern appears to be that there should be sufficient spectrum to accommodate all potential MSS applicants rather than that the overall allocation to MSS is insufficient to meet expected demand. Sprint and Bell Atlantic support the allocation of 120

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[125] See AMSC Petition at 2-3, 6.

[126] See Comsat Petition at 2-3, 15-22; TRW Petition at 1-2.

[127] See TRW Petition at 2-6.

[128] See Motorola Petition at 3.

[129] See API Comments at 8-9; UTC Comments at 6-7.

[130] See MCI Comments at 6.

[131] UTC observes that 63 MHz of spectrum is allocated domestically for MSS at 1544-1559/1645.5-1660.5 MHz and 1610-1626.5/2483.5-2500 MHz and that 40 MHz can be used for MSS at 1970-1990/2160-2180 MHz. See UTC Comments at 6-7.

MHz for broadband PCS and oppose reallocating any of that spectrum to MSS. Sprint states that to do so would compromise the competitiveness and ultimate viability of PCS.[132]

93. In reply comments, TRW, AMSC, Comsat, and LQSS support reallocation of the 2180-2200 MHz band from PCS to MSS. Comsat and LQSS agree with TRW that we could substitute other spectrum for PCS to replace the 1980-2200 MHz band.[133] AMSC opposes expansion of the PCS proceeding to include the possible allocation of the 1990-2010 MHz band to MSS. It argues that the current allocation of this band to broadcast auxiliary operations is necessary, that these frequencies are already congested and that there currently is no evidence that sharing between broadcast auxiliary operations and MSS would be feasible.[134]

94. Decision. We recognize the potential value of MSS as a service provider to rural areas that may not be economically served by PCS. We have thus given the petitions of MSS interests, including the various alternatives they suggest, careful consideration. Having been instrumental in obtaining the international MSS allocations at WARC-92, we would not wish unnecessarily to reduce our flexibility to implement those allocations in the U.S. On the other hand, we must also recognize the large potential value of PCS which is a matter of record in this proceeding.[135] It should be noted that these MSS bands are also allocated internationally to fixed and mobile services. PCS, as we have broadly defined it, fits within the international definition of fixed and mobile services and is thus consistent with international agreements on the use of this spectrum. Because spectrum is a limited resource, we find that to satisfy our goal of allocating sufficient spectrum for a competitive PCS service, we must allocate to PCS a portion of the spectrum internationally designated for MSS. We believe the new plan we are adopting today strikes an appropriate balance between these two services and will provide maximum benefits to U.S. consumers.

95. We disagree with the assertion of Comsat and TRW that we provided insufficient notice and opportunity for comment on the possibility that we might allocate a portion of the internationally designated MSS spectrum to PCS. The PCS Notice sought comment on a wide range of allocation options for licensed PCS ranging from three to five spectrum blocks

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[132] See Sprint Comments at 5-6; Bell Atlantic Comments at 8-10.

[133] See Comsat Reply at 4-6; LQSS Reply at 1-4; TRW Reply at 2-5.

[134] See AMSTV Reply at 1-5.

[135] PCIA, The Yankee Group, EMCI, and BIS Strategic Decisions all presented demand studies at the PCS Public Forum on April 11, 1994 that showed significant demand for PCS services. In addition, also at the PCS Public Forum, Dr. Jerry Hausman pointed to stock market valuations for SMR companies to support his assertion that there will be significant demand for wireless services in the future.

of from 20 to 40 MHz each.[136] Several of the possible combinations of block size and number of blocks would require the use of spectrum in the bands designated internationally for MSS, and at least one option (i.e., five blocks of 40 MHz each) would require virtually all of that spectrum.[137] We specifically called attention to the fact that some of these options would necessarily require the use of spectrum in other emerging technologies bands, and we did not exclude emerging technologies bands that had been designated internationally for worldwide or Region II MSS.[138] Thus, contrary to petitioners' contentions, we believe that parties were given adequate notice of the possibility that our final PCS allocation could include some or even all of the internationally allocated MSS spectrum in these bands.

96. Under the new band plan, the entire allocation to broadband PCS is located in the 1850-1990 MHz band. The 2180-2200 MHz band, which was allocated to PCS in the Second Report and Order has been returned to reserve status for future allocation potentially to MSS, as requested by the MSS interests. Our new band plan, however, removes an equal amount of spectrum from potential consideration for MSS in the band 1970-1990 MHz band, 10 MHz of which can be used for Region II MSS service. We believe that our new band plan accommodates the future potential of MSS more fully than our original plan and therefore addresses the concerns of a majority of the MSS industry.[139]

97. By shifting the PCS allocation out of the 2180-2200 MHz band we have preserved the option of allocating some or all of that spectrum to MSS in the future. This preserves 50 MHz of the 60 MHz allocated worldwide and thus fits more closely with our international agreements. Twenty MHz of this worldwide MSS spectrum is paired with spectrum inside the current broadcast auxiliary band. In the future, this spectrum could potentially be reallocated for MSS use on a shared basis, if feasible, or exclusively, if suitable replacement spectrum could be found for broadcast auxiliary service. It is our intent to initiate a proceeding to investigate these additional allocation possibilities in the near future, with the purpose of accommodating MSS operations within the remaining internationally designated bands, while at the same time maintaining sufficient spectrum for broadcast auxiliary use. We also intend to pursue additional international allocations for MSS at WRC-95.[140]

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[136] See Notice of Proposed Rule Making and Tentative Decision, GEN Docket No. 90-314, ET Docket No. 92-100, 7 FCC Rcd 5676, 5692 (1992).

[137] See Second Report and Order at ¶¶ 34, 36.

[138] Id. at ¶ 40.

[139] See Letter from Motorola to the FCC (May 25, 1994); Letter from MSS Spectrum Coalition to the FCC (May 27, 1994).

[140] See Preparation for International Telecommunication Union World Radio Communication Conferences, IC Docket No. 94-31, FCC 94-96, released May 5, 1994.

IV. OWNERSHIP RULES AND CELLULAR ELIGIBILITY

98. In the Second Report and Order, the Commission recognized that permitting cellular licensees to participate in PCS could foster rapid development of PCS by taking advantage of cellular providers' expertise, economies of scope between PCS and cellular service, and existing infrastructures.[141] The Commission also recognized that new entrants would foster competition and expressed concern about potential anticompetitive conduct by parties with cellular and PCS interests in the same geographic area.[142] To balance these competing interests, we permitted cellular licensees to obtain PCS licenses outside of their cellular service areas, but restricted them each to one 10 MHz PCS license within their respective cellular service areas.

99. For the purposes of its PCS rules, the Commission defined an attributable cellular interest as ownership of 20 or more percent of a cellular license.[143] If an entity has attributable cellular interests in a license or licenses individually or jointly covering 10 or more percent of the population in a PCS service area, then that entity would be restricted to one 10 MHz PCS license in that area. If an entity holds interests of less than 20 percent in a cellular license, these interests are not considered attributable and the population covered by that cellular license area is not counted towards the 10 percent population threshold. If an entity holds attributable cellular interests, i.e., interests of 20 percent or more, in licenses that individually or jointly cover less than 10 percent of the population in a PCS service area, that entity may hold licenses for up to 40 MHz of PCS spectrum in that PCS service area. Entities that have attributable interests that put them over the 10 percent population overlap threshold in a PCS service area are deemed "in market" cellular entities and as such may only hold 10 MHz of PCS spectrum in that PCS service area.[144]

100. The 20 percent attribution rule applies on a cumulative basis to all parties with ownership interests in cellular operations. Thus, for example, if four participants in a PCS venture each have an ownership interest of 5 percent in the same cellular licensee serving more than 10 percent of the population of a BTA, the PCS venture in which they all have an interest is deemed to have a 20 percent cellular ownership interest and is restricted to one 10 MHz frequency block in that BTA.[145] However, if the four parties to a PCS application each own 5 percent interests in four different cellular licensees, each of which serves 10 or more percent of the BTA, together they are not restricted to one 10 MHz block because they do not

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[141] See Second Report and Order at ¶ 106.

[142] Id. at ¶¶ 101, 105.

[143] See Second Report and Order at ¶¶ 107-108.

[144] Id. at ¶¶ 104-110.

[145] Id.at ¶ 107 and n.93.

exceed the 20 percent attribution threshold as to any single cellular license. Therefore, in the latter instance, the parties are permitted to purchase a full 40 MHz PCS spectrum block.

101. Twenty-four parties petitioned for reconsideration of various aspects of the cellular eligibility rules and the general attribution standard used for invoking our PCS ownership limits.[146] The petitioners address: 1) eligibility of cellular licensees; 2) the 20 percent attribution standard; 3) the 10 percent population standard; 4) post-auction compliance by cellular licensees with the ownership restrictions; 5) exemptions from the eligibility restrictions for certain cellular providers; and 6) the interests that should be deemed attributable for purposes of calculating ownership and control of a PCS or cellular license.

A. Eligibility of Cellular Licensees for PCS Licenses

102. Six parties advocate eliminating all eligibility restrictions on cellular providers.[147] Fourteen parties agree with the concept that there should be some restrictions on cellular participation in PCS.[148] These latter parties' positions range from agreeing with the standards of the Second Report and Order to arguing for different measures of both coverage and ownership to favoring different standards entirely, but these parties all accept the idea that there should be limitations on cellular entities holding PCS licenses.[149]

103. We have decided to retain restrictions on cellular participation in PCS. In making this decision, we are aware of the benefits that the cellular industry has to offer PCS, as TDS and McCaw note,[150] including capital, economies of scope, and experience and expertise in the provision of mobile communications services. For this reason, we will continue to allow cellular participation in PCS. In addition, we will make some changes in the specific standards of the Second Report and Order, but we remain convinced that restrictions on in-market cellular providers are necessary to achieve our goal of maximizing

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[146] Petitioners addressing eligibility and attribution issues include: Alliance, APC, Bell Atlantic, CCIMR, Columbia, Comcast, Concord, CTIA, Florida Cellular, GCI, GTE, INS, MCI, McCaw, NYNEX, OPASTCO, Pacific Telecom, PMN, PNSC, Radiofone, Sprint, Time Warner, TDS, Intelco and US West.

[147] See Bell Atlantic Petition at 4; McCaw Petition at 3; NYNEX Comments at 5-6; Radiofone Petition at 12-15; TDS Petition at 3; USTA Comments at 5.

[148] See AIDE Comments at 18; Cablevision Comments at 6-8; CIS Comments at 1; Concord Petition at 2; CTIA Petition at 14; Florida Cellular Petition at 5; GCI Petition at 5-8; GTE Petition at 2-5; MCI Petition at 1; PCS Action Comments at 13-15; PNSC Petition at 9-10; Sprint Petition at 9-10; Time Warner Reply at 6-8; U.S. West Petition at 16, 26.

[149] Id.

[150] See TDS Petition at 3; McCaw Petition at 3.

the number of new viable and vigorous competitors. In reaching this conclusion we do not assume that in-market cellular providers will engage in illegal anticompetitive behavior. We agree with the assertion of Dan Kelley of Hatfield Associates that our goal in crafting these rules should not be to prevent anticompetitive behavior which may or may not materialize, but rather, to promote competition.[151] Bell Atlantic's assertion that we should not restrict cellular participants because we have no basis for assuming that cellular providers will behave anticompetitively in the PCS market, does not address our goal of promoting vigorous new competition.[152] Similarly, McCaw's arguments that existing cellular providers have minimal market penetration do not respond to our desire to provide consumers with as many competitive choices as possible.[153] We conclude that the public interest would be best served by maximizing the number of viable new entrants in a given market.

104. Finally, while some petitioners, such as Radiofone, point out that SMR and MSS providers are not subject to the same eligibility restrictions as cellular providers,[154] only U.S. West affirmatively requests that the eligibility restrictions of the Second Report and Order be extended to wide-area SMR services.[155] US West claims that wide-area SMR is competitive with PCS and cellular services and asserts that the competitive concerns that apply to cellular systems also apply to wide-area SMR operations. AIDE and Time Warner agree with U.S. West that cellular eligibility limitations should also apply to wide-area SMR providers, because wide-area SMRs are expected to compete with cellular and PCS.[156] Nextel, however, opposes the application of cellular eligibility restrictions to wide-area SMR systems.[157] It states that extending the eligibility restrictions to wide-area SMR systems is beyond the scope of this proceeding and that wide-area SMR operation is too new and too small to have the capability of behaving anticompetitively. We agree with Nextel that imposing eligibility restrictions is beyond the scope of this proceeding. We are, therefore, addressing in another proceeding[158] the eligibility of wide-area SMRs and other commercial radio services to participate in PCS.

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[151] See Transcripts of the PCS Public Forum at 389, (April 11, 1994).

[152] See Bell Atlantic Petition at 4; see also Second Report and Order at ¶¶ 5, 108.

[153] See McCaw Petition at 3.

[154] See Radiofone Petition at 12-15.

[155] See U.S. West Petition at 16.

[156] See AIDE Comments at 18; Time Warner Reply at 6-8.

[157] See Nextel Reply at 8-9.

[158] See Further Notice of Proposed Rule Making, GN Docket No. 93-252, FCC 94-100, released May 20, 1994.

B. Attribution Rules

105. In the Notice of Proposed Rule Making in this proceeding, we noted our expectation that PCS and cellular licensees serving the same area will compete on price and quality of service. We therefore stated that competitive benefits might be reduced if cellular licensees are permitted to acquire PCS licenses within their service areas and proposed an outright prohibition on cross-ownership of PCS licenses by entities with cellular interests, except that ownership interests of less than one percent (or less than five percent for publicly traded companies) would not be considered.[159] In the Second Report and Order, we found this approach too restrictive. Although we still sought to avoid the potential for undue market power by entities with significant existing market share, we balanced that goal against recognition of the expertise that cellular licensees would bring to PCS markets.[160] We also noted that many entities possess non-controlling interests in cellular licensees exceeding 5 percent but, due to the non-controlling nature of their equity interests, create little potential for anti-competitive behavior.[161]

106. We therefore adopted a simple, bright-line 20 percent cross-ownership attribution standard, pursuant to which entities with 20 percent or greater ownership of a cellular operator were limited to one 10 MHz BTA license for broadband PCS in the same region as their attributable cellular interests.[162] We did not distinguish between different types of ownership such as voting and non-voting stock and general and limited partnership interests. We noted, however, that while a clear 20 percent ownership threshold may be more administratively efficient, a concern remained that some parties with cellular ownership interests will use our rules as an opportunity to control local cellular licensees while retaining less than 20 percent ownership. Since such occurrences would undermine our intent to limit cellular ownership in PCS, we said that we would review carefully this decision, and we explicitly put parties on notice that we would reconsider this limit if our intent to ensure competition between cellular and PCS would be undermined under the ownership rules adopted in the Second Report and Order.[163]

107. With respect to ownership interests in multiple PCS licensees in a single market, we adopted a 5 percent attribution threshold for purposes of the 40 MHz PCS spectrum limit and for purposes of determining cellular ownership in a PCS licensee. We stated that PCS

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[159] See Notice of Proposed Rule Making, GEN Docket No. 90-314, 7 FCC Rcd. 5676, 5703 n.46 (citing 47 C.F.R. § 22.921(b)).

[160] See Second Report and Order at ¶ 108.

[161] Id. at ¶ 107.

[162] Id. at ¶¶ 107, 108; Section 24.204 of the Commission's Rules.

[163] Id. at ¶¶ 109-110.

ownership interests of 5 percent or more will be attributed to the holder of the interest.[164] In adopting this standard, we cited similar market-based concerns, noting our desire to "ensure that [no entity] is able to exert undue market power through partial ownership in multiple PCS licensees in a single service area."[165] The 5 percent threshold is consistent with the ownership thresholds we apply to cellular and broadcast licensees.[166] We did not find any potential advantages possessed by any existing PCS licensees inasmuch as there are no such licensees. Similarly, we did not discuss the need to accommodate settlements among PCS licensees resulting in non-controlling interests of between 5 and 20 percent because there are no such settlements in the PCS context. We therefore adopted this 5 percent limit for application to PCS multiple ownership, whereas it appeared too restrictive in the cellular-PCS cross-ownership context given the realities of existing historical cellular settlements.[167]

108. Twelve parties petitioned for reconsideration of the cellular ownership attribution standard.[168] The petitioners recommend the following alternatives: 1) raising the 20 percent level of permissible ownership in cellular licensees; 2) attribution based on control rather than ownership; 3) applying an affiliation standard like that in our telco-cable cross-ownership rules; 4) applying an attribution standard based on the rules used to enforce our alien ownership restrictions under Section 310 of the Communications Act; and 5) applying the same attribution rules to PCS as those we apply to broadcast interests.

109. Decision. We continue to believe that the PCS and cellular ownership attribution decisions we adopted in the Second Report and Order, with certain modifications, are appropriate and strike a reasonable balance between promoting vigorous competition and the advantages of allowing experienced mobile communications operators such as cellular licensees to participate as PCS licensees. We disagree with those parties, such as Bell Atlantic and GCI, that suggest the same 20 percent attribution limits should apply to cellular/PCS cross-ownership and to PCS multiple ownership.[169] Generally, we would prefer to use the 5 percent standard for all cross-ownership situations, to maximize competition. We are adopting an attribution threshold of 5 percent for multiple PCS ownership purposes to prevent any party from exerting market power through substantial partial ownership in

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[164] Id. at n.62, n.92.

[165] Id. at ¶ 61.

[166] See 47 C.F.R. §§ 22.902(b)(5), 73.3555, note (2).

[167] See Second Report and Order at ¶ 107.

[168] Petitioners include: Alliance, Bell Atlantic, Columbia, NYNEX, Pacific Telecom, PMN, CCIMR, Comcast, CTIA, GCI, PCS Action and Time Warner.

[169] See Bell Atlantic Petition at 4; GCI Comments at 9-11.

multiple PCS licensees in the same service area.[170] We see no countervailing reason to risk reducing competition by raising this 5 percent limit for PCS multiple ownership limits. Moreover, the 5 percent threshold is consistent with ownership thresholds we apply to cellular and broadcasting.

110. Such a strict rule for PCS/cellular cross-ownership, however, would not recognize the history of cellular licensing. The 20 percent ownership attribution standard for cellular operators was adopted, in part, because settlements during the initial phase of cellular licensing resulted in partial and often non-controlling interests in those licensees.[171] In light of this history, we believe it would be unfair and unduly restrictive to place the same 5 percent limit on cellular/PCS cross-ownership. For this reason, we decided to allow a 20 percent cellular ownership interest. Further, we believe that given the nature of these settlement agreements, permitting this level of ownership will not decrease the incentives for competition. Therefore we will not require divestiture to a lower level of ownership. The 20 percent standard permits many entities with partial, non-controlling cellular interests to participate in PCS. In adopting the 20 percent standard, we recognized that participation by cellular operators in PCS would offer benefits that include promoting early development of PCS by taking advantage of cellular providers' expertise and permitting attainment of economies of scope between PCS and cellular service and existing infrastructure.[172] We therefore are making an exception to our usual treatment of cross-ownership for purposes of cellular-PCS cross-ownership.

111. We disagree with those entities such as CTIA that argue for a higher cellular ownership attribution threshold such as 35 percent.[173] PCS Action states that if our PCS attribution standard were raised to CTIA's proposed 35 percent, a consortium of NYNEX, Bell Atlantic and Bell South, each holding 33 percent of the consortium, could hold all the 30 MHz MTA licenses in the areas covered by the three parties' CGSAs. According to PCS Action, this would amount to cellular control of PCS services in the entire East Coast and South. PCS Action concludes by advocating retention of the current standard.[174] We believe that 20 percent is the proper standard. A higher attribution threshold (i.e., above 20 percent) for all incumbent cellular entities would tend to suppress competition, because the licensee would have economic incentives not to compete vigorously against competitors in which it holds a substantial equity interest. We conclude that these standards, with exceptions

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[170] See Second Report and Order at ¶ 29.

[171] Id. at ¶ 107.

[172] Id. at ¶ 104.

[173] See CTIA Petition at iv.

[174] See PCS Action Comments at 16-17.

discussed below related to certain designated entities, remain appropriate, and accordingly we affirm them.

112. A number of parties, including Alliance, Bell Atlantic, Columbia, NYNEX, Pacific Telecom and PMN, request that we amend the attribution standard to base it on case-by-case determinations of control rather than the 20 percent attribution standard.[175] Alliance and others contend that 20 percent is too restrictive and unnecessarily limits participation in PCS by entities that have only passive interests in cellular systems.[176] Bell Atlantic and NYNEX also advocate examining only legal control.[177] Bell Atlantic argues that this standard should apply to both cellular/PCS and PCS/PCS ownership. NYNEX argues that a standard based upon control would ensure that cellular carriers and local exchange carriers are able to provide needed capital and expertise to PCS. CCIMR advocates applying broadcast ownership attribution standards, arguing that these rules distinguish between ownership and control and are as easy to administer as the 20 percent attribution standard.[178]

113. Our goals here include ensuring that the holder of the PCS license has strong incentives to compete against the cellular licensees in the same geographic market.[179] A PCS licensee that has a large equity stake (i.e., more than 20 percent) in a cellular license in the same area has less incentive to compete vigorously against its own equity interest in a cellular provider, even though it may not exercise legal control over the cellular licensee. We believe that our attribution rules provide the right balance between maximizing competition and allowing cellular entities to bring their expertise to PCS.[180] We therefore will not adopt a rule that would require us to find that a party had a "controlling interest" in a cellular licensee before it would be prohibited from investing in a PCS licensee in the same area. Such a rule could substantially delay the licensing of PCS and would not serve our goal of promoting vigorous competition between PCS and cellular licensees in the same area. We believe the bright-line rules we are adopting will result in a faster, less burdensome licensing process.

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[175] See Alliance Petition at 7-8; Bell Atlantic Petition at 4-5; Columbia Petition at 6-7; NYNEX Petition at 4-5, 13-15; Pacific Telecom Petition at 5.

[176] See Alliance Petition at 7; Columbia Petition at 6-7; CTIA Petition at 20; NYNEX Petition at 13-15; Pacific Telecom Petition at 5.

[177] See Bell Atlantic Petition at 5; NYNEX Petition at 4-5, 13-15.

[178] See CCIMR Petition at 11.

[179] See Policy Statement and Order, GEN Docket 90-314, 6 FCC Rcd 6601 (1991), Notice of Proposed Rule Making and Tentative Decision, GEN Docket 90-314, 7 FCC Rcd 5676, 5690, 5704 (1992).

[180] See Second Report and Order at ¶ 108.

114. We also reject the suggestion by Time Warner that we prohibit all "affiliations" between cellular and PCS licensees in the same market, along the lines of our telco-cable cross-ownership rules.[181] These rules, which are even more restrictive than our broadcast attribution rules, would not provide the flexibility to recognize the history of settlement agreements in cellular licensing and would not allow us to draw on the experience and expertise provided by cellular providers who have low equity stakes. They also might have the effect of restricting contracts between PCS licensees and companies financing their equipment and the build-out of their PCS systems, which could seriously impair rapid investment in and deployment of PCS systems.

115. Comcast recommends that we adopt the attributable ownership standard used to apply the alien ownership restrictions of Section 310(b) of the Communications Act, along with policies found in the broadcast rules.[182] Comcast notes that these alien ownership provisions recognize both voting and non-voting stock in determining percentage of ownership. Comcast also suggests that we adopt the "multiplier" policies of our broadcast ownership rules.[183] Comcast claims that the use of these standards together, because they are clear and well-defined, would help a potential PCS investor decide whether to invest in PCS.

116. We disagree that the alien ownership rules provide a clearer guide than our present attribution standards. Because the alien ownership restrictions set forth in section 310(b) of the Communications Act were created specifically to avoid an undue concentration of foreign influence in the direction of entities involved in communications, the attribution thresholds defined in that section are more complicated than the 5 percent/20 percent bright-line thresholds which we have adopted here. Further, unlike our rules in the broadcast context, we will not allow use of a "multiplier" in the case of multi-tiered entities; the interest of the subsidiary is attributed in full to the parent. We agree, however, that both voting and non-voting stock should be included in determining percentage of ownership of PCS and cellular entities.

117. In determining attributable interests for the purposes of both the 20 percent cellular/PCS cross-ownership rule and the 5 percent PCS/PCS multiple ownership rule, we agree with some of the parties that some clarifications and modifications to our attribution rules are warranted. Our attribution rules must be simple for applicants to understand because they are essential to enforcement of our PCS spectrum cap and our PCS/cellular cross-ownership rules. In the Second Report and Order, we stated that we would consider all equity ownership, including voting and non-voting stock and limited partnership interests, in calculating the percentages of attributable ownership interest in a PCS or cellular licensee. We explained that we would count these interests even if they did not confer on the holder

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[181] See 47 C.F.R. § 63.54.

[182] See Comcast Petition at 3, 12-15.

[183] See 47 C.F.R. § 73.3555, note (2). See also Comcast Petition at 3, 12-15.

meaningful participation, because the public interest would best be served by a "bright-line" test. We continue to believe that our ownership rules should be clear and easy to administer, and, to that end, we will provide further clarification about which of our ownership rules from the broadcast regime will be applied to PCS. We decline to adopt the full panoply of attribution rules that we apply in the broadcast and in the telco/cable contexts because we believe that the restrictions we are adopting will be sufficient to prevent undue influence and preserve competition.

118. We clarify that, for purposes of these ownership rules, controlling interests per se are attributable. As in other contexts, "control" means not only majority equity ownership, but includes any general partnership interest, or any means of actual working control over the operation of the licensee, in whatever manner exercised. We will rely on existing case law for making control determinations where such issues arise.[184]

119. We also clarify that PCS equity investments of 5 percent or more, and cellular equity investments of 20 percent or more, also are attributable.[185] These equity interests are attributable because they support our goals of developing a competitive PCS service and reducing the incentive for any entity to retard the capability of the new PCS licensee to compete with the cellular or any other PCS licensee in which the entity has an attributable interest. Specifically, the following equity investments will be counted: voting stock, non-voting stock, and limited partnership interests.[186] The percentage of ownership interest in a limited partnership will be based on the partner's economic interest in the partnership. Therefore, the Commission will assess the percentage of the partner's capital contribution as well as the percentage of profits and losses allocated to the partner. As noted above, general partnership interests are deemed attributable regardless of equity percentage because of the control conferred on general partners by the nature of their interest. The following investments are not attributable for multiple or cross-ownership purposes: debt interests, including loans secured by the equipment used in the licensed system, and equity interests below the 20 percent and 5 percent thresholds. These interests are of less consequence to or independent of the entity's performance and therefore provide little incentive to delay or dilute the participation of the new PCS license in the market. In addition, consistent with other multiple- and cross-ownership attribution standard, convertible debt instruments or

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[184] See e.g., Intermountain Microwave, 24 RR 983 (1963); Cellular Control Notice, 1 FCC Rcd 3 (1986); News International, PLC, 97 FCC 2d 349 (1984); Loraine Journal v. FCC, 351 F.2d 824, 828 (D.C. Cir. 1965), cert. denied, 383 U.S. 967 (1966).

[185] Attribution for cellular purposes also means overlap of the CGSA with at least 10 percent of the population of the PCS market (BTA or MTA).

[186] Thus, in a stock company, PCS and cellular interests of 5 or 20 percent, respectively, of the total outstanding stock as well as interests of 5 or 20 percent, respectively, of the outstanding voting stock will be attributable.

options with rights of conversion to equity interests shall not be attributed unless and until conversion is effected.

120. We also clarify that the interests of a cellular or PCS licensee, or entity in control of a licensee, are attributed to the officers and directors of that entity. We remain concerned about the ability of such individuals to exert influence over companies in which they have significant managerial responsibility. Therefore, if an officer of a company wishes to invest in a PCS market, he or she may only do so if this company itself could make the same investment in compliance with our rules.

121. We also will not allow an exemption for minority investors in companies controlled by a single majority shareholder. Although these rules are used in the broadcast area to exempt from attribution entities not believed to be able to exercise control over a licensee, in the context of PCS we believe that not allowing use of a "multiplier" serves our goal of maximizing competition. These rules will help ensure against undue influence, short of control, by minority stockholders and distant stockholders in parent or intermediate corporations.

122. Through an ongoing proceeding concerning multiple ownership of commercial mobile radio service (CMRS) licensees, we will address whether we should change our rules to restrict or attribute resale, management agreements or other ownership arrangements that could confer possible anticompetitive incentives on parties with multiple CMRS interests.[187] This proceeding will examine whether and to what extent such arrangements could be used to exert control over more spectrum than is permitted under our PCS spectrum cap (40 MHz) or the proposed CMRS spectrum cap.[188]

C. Attribution Rules for Certain Designated Entities

123. Several petitioners request that we exempt from the cellular eligibility restrictions certain classes of cellular owners, such as rural telephone companies or other designated entities. INS, TDS, Intelco and OPASTCO all request us to exempt rural telephone companies from the cellular eligibility restrictions. INS, for example, argues that most rural telephone companies are merely passive investors in cellular licensees, incapable of exercising market power. It argues that PCS could be introduced in rural areas more rapidly through consortia of rural telephone companies.[189] OPASTCO argues that Congress directed the Commission to ensure that opportunities exist for rural telephone companies, among others, to participate in spectrum-based services and that the current cellular eligibility rules exclude

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[187] We will issue a notice requesting comment on these issues as part of our current proceeding regarding CMRS, in GN Docket No. 93-252.

[188] Id.

[189] See INS Petition at 12. See also TDS Petition at 3-6.