approach will encourage smaller businesses, possibly businesses that are very well suited to provide 10 MHz niche services, to participate in the F block auction. We also believe, in response to Devon's arguments, that a tiered approach enhances the discounting effect of bidding credits because not all entities receive the same benefit. We note that our original F block rules included bidding credits that were tiered -- although based on race and gender. We have also offered tiered bidding credits for small businesses in auctioning other services. In auctioning 900 MHz SMR licenses, for example, we provided a 15 percent bidding credit to very small businesses with average annual gross revenues of not more than $3 million and a 10 percent bidding credit to small businesses with average annual gross revenues of not more than $15 million.[146]

54. We find that NCMC's specific proposal strikes a good balance between offering added incentives to very small businesses and retaining some bidding credits for entities that received them in the C block. Under the modified rule, entities with average gross revenues of not more than $15 million for the past three years are eligible for a 25 percent bidding credit. Entities with average gross revenues of not more than $40 million for the past three years are eligible for a 15 percent bidding credit.

55. We also believe that the timing of our modification here, as compared to the modifications that we made in the *Competitive Bidding Sixth Report and Order*, allows us to take a different approach than we took for the C block. When we modified our rules for the C block, we attempted to preserve the expectations and business strategies of applicants who had relied on their eligibility for a 25 percent bidding credit. The single 25 percent small business bidding credit adopted for the C block ensured that all prospective applicants were able to participate in the auction.[147] Entities interested in bidding on F block licenses have not had similar expectations in structuring their businesses or formulating strategies in reliance on the tiered bidding credits originally adopted.

5. Information Collection

56. In the *Notice*, we asked for comment on our proposal to continue to request that applicants provide information regarding minority- and women-owned status in their short-form applications if we eliminated the race- and gender-based provisions in our F block rules.[148] All the comments that we received on this issue favored our proposal.[149] Thus, we

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[146] Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the SMR Pool, *Second Order on Reconsideration and Seventh Report and Order*, 11 FCC Rcd 2639, at 2705-6 (1995)("*Competitive Bidding Seventh Report and Order*").

[147] *See Competitive Bidding Sixth Report and Order*, 11 FCC Rcd at 161.

[148] *Notice* at ¶ 48.

[149] Antigone Comments at 9; DCR Comments at 4; NatTel Comments at 4, n.3.

will continue to request information regarding minority- and women-owned status in the F block short-form applications. As we stated in the *Notice*, we believe that continuing to collect such information will assist us in analyzing applicant pools and auction results to determine whether we have promoted substantial participation in auctions by minorities and women, as we are directed by Congress, through the special provisions we make available to small businesses. This information will also assist us in preparing our report to Congress on the participation of designated entities in the auctions and in the provision of spectrum-based services.[150] We also believe that such information will be relevant in developing a supplemental record should we find that special provisions for small businesses prove unsuccessful in encouraging the dissemination of licenses to a wide variety of applicants, including businesses owned by members of minority groups and women.

B. Definitions

1. Small Business

57. Background. Under our current F block rules, a "small business" is defined as an entity that, together with its affiliates and persons or entities that hold interests in such entity and their affiliates, has average gross revenues of not more than $40 million for the preceding three years.[151] In the *Notice*, we proposed to keep this definition for the F block, which is also used for the C block, to allow C block small business licensees to benefit from the small business provisions of the F block.[152] However, we expressed concern that this threshold might prevent C block winners from acquiring F block licenses because of the value of their C block licenses, and we requested comment on whether the value of a C block license should be part of the gross revenues calculation. We also requested comment on whether we should define and adopt rules for very small businesses, and whether we should modify or simplify the affiliation rules.

58. Comments. Most commenters support our proposal to continue to define entities with $40 million or less in gross revenues as small businesses.[153] Commenters advocating a

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[150] *See* 47 U.S.C. § 309(j)(12)(D).

[151] 47 C.F.R. § 24.720(b)(1).

[152] *Notice* at ¶ 50

[153] AirLink Comments at 15-16; Auction Strategy Comments at 2; USIW Comments at 4-5; The Alliance Comments at 4; Radiofone Comments at 11-12; DCR Comments at 8; Devon Comments at 10; Iowa Comments at 6; NatTel Comments at 4; NTCA Comments 4-5; NCMC Comments at 11-12; Antigone Comments at 8; Mid-Plains Comments at 3

change in our definition support using both lower financial tests[154] and higher financial tests[155] or looking at net worth and total assets rather than gross revenues.[156] RAA proposes that any bidder intending to serve more than 5 million pops should not be considered a small business.[157] Other commenters support changes to the affiliation rules. CSCI advocates modifying the definition of publicly traded companies with widely dispersed voting power to eliminate the 15 percent single entity ownership limitation.[158] In other words, it requests that we allow publicly held companies in which a single person owns more than 15 percent of the equity to ignore its affiliates' and owners' revenues and assets for purposes of qualifying as a small business or entrepreneur. BellSouth supports redefining small businesses to promote the participation of very small businesses in spectrum-based services.[159]

59. The comments are equally split on the issue of whether the value of licenses won in the C block auction should be considered in determining whether an entity is a small business. Arguments in opposition to considering the value of C block licenses include the assertion that the value of these licenses is offset by the liability of payments to the U.S. Treasury;[160] that C block licensees plan to aggregate C and F block spectrum;[161] that C block bidders' ineligibility to bid in the F block auction would unfairly limit them to acquiring 10 MHz licenses in the secondary market;[162] and that we intended for entities qualifying as

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[154] Point Comments at 2; Bray Comments at 2; New Dakota Investment Trust Comments at 6-7 ("New Dakota"); ICGC Comments at 2; ONE Comments at 1; Thompson PCS Systems, Inc. Comments at 3 ("TPCS"); Wireless 2000, Inc. Comments at 1 ("Wireless 2000"); Wireless Interactive Data Systems Comments at 1 ("WIDS"); Advanced Comments at 1; Ondas Comments at 2; Columbia Comments at 1.

[155] Vanguard Comments at 4-5 (proposing raising small business eligibility threshold to $350 million in average revenues and $700 million in total assets because of the capital-intensive nature of building a communications business).

[156] Mountain Solutions Comments at 9; TEC Comments at 5-8. TEC also argues, in the alternative, that we should prohibit attributable investment and significant loans by entities with a net worth over $30 million and total assets above $300 million averaged over the last three years. *Id.* at 8.

[157] Rendall and Associates Reply Comments at 2-3 ("RAA").

[158] Community Service Communications, Inc. Comments at 6-8 ("CSCI"). *See* 47 C.F.R. § 24.720(m).

[159] BellSouth Comments at 12.

[160] Auction Strategy Comments at 2.

[161] Alliance Comments at 4; NextWave Comments at 5; Western Comments at 28 and Reply Comments at 17-18.

[162] Devon Comments at 11.

entrepreneurs or small businesses to continue to qualify regardless of financial growth.[163] Arguments in favor of considering the value of C block licenses include: expanding the number of broadband licensees; improving opportunities for bidders that were unable to win licenses in previous broadband PCS auctions; and increasing opportunities for small businesses, including those owned by women and minorities.[164]

60. Decision. We will continue to define small businesses as those entities that have gross revenues of not more than $40 million. Maintaining our $40 million definition of small businesses avoids disruption to the business plans of potential bidders, particularly participants in the C block auction. Additionally, however, we define a second tier of small businesses, which we will refer to as "very small businesses," as entities that, together with their affiliates and persons or entities that hold interests in such entities and their affiliates, have average gross revenues of not more than $15 million for the preceding three years. Creation of this subcategory of small businesses enables us to tailor our benefits to better meet the needs of bidders likely to participate in the F block auction. Smaller license size may mean that smaller businesses are likely to participate in the F block auction. Thus, as discussed above, our goals can best be served by offering varying bidding credits depending on the applicant's size. We believe that BellSouth's concern about furthering the interests of very small businesses is addressed in the tiered bidding credits that we adopt herein.[165] We will not, however, redefine publicly traded companies with widely dispersed voting power to eliminate the 15 percent single entity ownership limitation as requested by CSCI. Applicants such as CSCI that believe that their individual ownership structures merit exemption from our general definition may request a waiver.

61. We decline to make special provisions for small business winners of C block licenses as requested by some commenters.[166] As a practical matter, C block small business winners will likely not have accrued substantial gross revenues by the time we auction the D, E, and F blocks. Therefore, most of these winners should continue to qualify as small businesses. On the other hand, if they have grown in size beyond our established financial

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[163] DCR Comments at 6-7; NextWave Comments at 4-5; Omnipoint Corp. Comments at 5 ("Omnipoint"); Western Comments at 28. *See also* Bear Sterns Reply Comments at 5.

[164] CIRI Comments at 8-11 (suggesting that any C block licensee that holds BTA licenses covering more than two percent of the national population should be ineligible for any small business preferences). *See also* Iowa Comments at 6; NatTel Comments at 4; NCMC Comments at 11-12; Radiofone Reply Comments at 23; AirLink Reply Comments at 13 (stating that the Commission excluded reasonable business growth of a licensee for purposes of transactions outside the auction context, but has never done so for purposes of determining initial eligibility to participate in an auction).

[165] *See supra* ¶ 53.

[166] *See, e.g.*, DCR Comments at 7 (C block winners applying for the F block should not be required to submit new statements of gross revenues and updated total assets, unless there has been a change in affiliation or attributable investors).

cap, or, if they can no longer avail themselves of our exception to the affiliation rules,[167] they may no longer qualify as a small business.

2. Rural Telephone Company

62. Background. In the *Notice*, we sought comment on whether we should retain the current definition of rural telephone company or replace it with the definition contained in the 1996 Act.[168] Our F block rules define a rural telephone company as "a local exchange carrier having 100,000 or fewer access lines, including all affiliates."[169] In adopting this definition and geographic partitioning provisions, we indicated that it would facilitate the rapid deployment of broadband PCS to rural areas without giving benefits to large companies that do not require special assistance."[170] The 1996 Act, which defines 'rural telephone company' to include a larger number of local exchange carriers, provides:

> Rural telephone company.--The term 'rural telephone company' means a local exchange carrier operating entity to the extent that such entity--
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> (A) provides common carrier service to any local exchange carrier study area that does not include either--
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> (i) any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or
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> (ii) any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of the Census as of August 10, 1993;
>
> (B) provides telephone exchange service, including exchange access, to fewer than 50,000 access lines;
>
> (C) provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or
>
> (D) has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996.[171]

63. Comments. Commenters are divided over whether the Commission should continue to use the definition of rural telephone company adopted in the *Competitive Bidding Fifth Report and Order* or the new definition contained in the 1996 Act. The PCS Coalition, the NY Coalition, USIW, the Alliance, and NTCA urge the Commission to retain its current

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[167] *See supra* ¶ 34.

[168] *Notice* at ¶ 52.

[169] *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5617; 47 C.F.R. § 24.720(e).

[170] *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5617.

[171] 47 U.S.C. § 153 (37)

definition.[172] They contend that replacing the current definition with the 1996 Act's definition would extend benefits intended for smaller companies to larger carriers, undermining the goals of Section 309(j)(3)(B) and possibly enabling larger LECs to attempt to qualify as rural telephone companies.[173] They also argue that the definition contained in the 1996 Act does not expressly override or replace any definitions that currently exist and that are outside the scope of the Act.[174] Finally, they claim that many rural telephone companies have reasonably relied upon the current definition and have made their plans and formed their coalitions in reliance on this definition.[175]

64. On the other hand, a number of commenters urge the Commission to amend its current definition of rural telephone company to conform with the definition contained in the 1996 Act.[176] Auction Strategy claims that the definition should be changed to promote conformity and ease of regulation.[177] GTE, Mid-Plains, TDS, and ALLTEL argue that the Commission should adopt the definition contained in the 1996 Act because it would increase the number of entities eligible for partitioning, which would help bring advanced service to rural areas more swiftly and increase the value of PCS licenses by increasing the number of entities qualified to acquire at least a portion of a license.[178] ALLTEL, Mid-Plains, and TDS also contend that the 1996 Act's definition of rural telephone company is a definition of general applicability, indicating that Congress intended for it to apply to the entire Communications Act.[179]

65. RTC, while opposing adoption of the new statutory definition for the F block auction, proposes expanding the current definition of rural telephone company to all LECs with less than 120,000 access lines (including all affiliates).[180] Alternatively, if the

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[172] PCS Coalition Comments at 11-14; NY Coalition Comments at 6-7; USIW Comments at 6; Alliance Comments at 5-6; and NTCA Comments at 5.

[173] PCS Coalition Comments at 11-12; NY Coalition Comments at 9; and NTCA Comments at 5.

[174] PCS Coalition Comments at 13-14; NY Coalition Comments at 7; USIW Comments at 6; Alliance Comments at 5; NTCA Comments at 5; RTC Comments at 7

[175] PCS Coalition Comments at 14; Alliance Comments at 5

[176] ALLTEL Corp. Comments at 3-4 ("ALLTEL"); Auction Strategy Comments at 2; Conestoga Comments at 3; GTE Service Corp. Comments at 3-6 ("GTE"); Mid-Plains Comments at 3-4; and TDS Comments at 5-6; TDS Reply Comments at 3.

[177] Auction Strategy Comments at 2.

[178] GTE Comments at 5-6; Mid-Plains Comments at 4 TDS Comments at 6-7; and ALLTEL Comments at 6-8.

[179] ALLTEL Comments at 3; Mid-Plains Comments at 3-4, TDS Comments at 5.

[180] RTC Comments at 7

Commission adopts the definition contained in the 1996 Act, RTC contends that newly enacted Section 251(f)(2) creates a *de facto* definition of rural telephone company limited to LECs "with fewer than 2 percent of the Nation's subscriber lines." Accordingly, LECs that serve fewer than 2 percent of the nation's subscriber lines, RTC proposes, should qualify as rural telephone companies for purposes of the Commission's PCS rules.[181]

66. Decision. We agree with those commenters that support the Commission's use of the definition of rural telephone company contained in the 1996 Act. We find compelling the arguments of GTE and ALLTEL that this definition will increase the number of entities eligible for partitioning and expedite the delivery of advanced services to rural areas. Although this decision may result in larger rural telephone companies being eligible to partition licenses, we recognize that the number of access lines - including those provided by rural telephone companies - continues to grow rapidly as the uses of telecommunications services expand. Thus, most rural telephone companies will benefit from a definition that accounts for their growth. Indeed, as RTC points out, we previously increased the threshold number of access lines from 50,000 to 100,000 in order to reflect this growth, consistent with the purposes of Section 309(j)(3)(A).[182] We also believe that adopting the 1996 Act definition for purposes of Section 309(j) will promote uniformity of regulations and is therefore consistent with the mandate of this legislation of easing regulatory burdens and eliminating unnecessary regulation. We believe that it is also consistent with our proposal to expand the availability of partitioned licenses generally [183]

67. We agree with commenters who assert that the definition is one of general applicability. We therefore elect not to adopt RTC's proposed definition contained in Section 251(f)(2) of the 1996 Act. This definition applies to rural telephone companies only in the context of suspensions or modifications of the application of certain statutory requirements to rural carriers. Absent a specific definition of rural telephone company for purposes of Section 309(j), and reading the statute as a whole, we are constrained to adopt the more generalized definition.

C. Extending Small Business Provisions to the D and E Blocks

68. Background. We requested comment in the *Notice* on whether we should extend installment payment plans to small businesses bidding on the D and E blocks. We tentatively concluded that extending installment payments to the D and E blocks could increase the chances for all small businesses, including those that are women- and minority-owned, to win a D, E, or F block license and that it could increase opportunities for small businesses that are current PCS, cellular, or SMR licensees to obtain 10 MHz licenses that they could aggregate

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[181] RTC Comments at 7, n. 10.

[182] *Id.*

[183] *See supra* note 55

with their current licenses.[184]

69. Comments. A majority of commenters advocate extending installment payment plans to small businesses in the D and E blocks.[185] AirLink, for example, asserts that installment payments are particularly important in the D and E blocks because all bidders will be eligible to participate regardless of size.[186] Omnipoint states that extending small business provisions to the D and E blocks will give small businesses a greater opportunity to aggregate 10 MHz licenses.[187] Many commenters also propose extending bidding credits to the D and E blocks.[188]

70. Commenters opposing the extension of installment payment plans to the D and E blocks argue primarily that small businesses receive ample opportunity to acquire 10 MHz licenses in the F block and that the market should decide the most efficient use of the remaining spectrum.[189] BellSouth argues that our spectrum allocation plan for broadband PCS, including the C and F block set-asides, satisfies Congressional intent regarding designated entities.[190] GWI argues that bidders in the C block auction valued the licenses in that auction based, in part, on the belief that the C block would be the only opportunity to rely on small business provisions to acquire 30 MHz broadband PCS licenses.[191] It believes that offering an installment payment plan to small businesses on D and E block licenses could

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[184] *Notice* at ¶ 54.

[185] PCS Coalition Comments at 9; AirLink Comments at 12; Antigone Comments at 8; Point Comments at 3; Auction Strategy Comments at 2; Alliance Comments at 6; Phoenix Comments at 3; PersonalConnect Comments at 2; Radiofone Comments at 11; CIRI Comments at 3 & Reply Comments at 9; DCR Comments at 10; Devon Comments at 12; Gulfstream Comments at 3-4; NatTel Comments 4-5; NCMC Comments at 12; Omnipoint Comments at 2; TEC Comments at 12; ICGC Comments at 1; ONE Comments at 1; Mid-Plains Comments at 4; PCS One Comments at 1; RAA Reply Comments at 3; NTCA Reply Comments at 3; Columbia Comments at 1; Western Reply Comments at 19. *See also*, Iowa Comments at 2, 5; KMTel, L.L.C. Comments at 5 ("KMTel"); Mountain Solutions Comments at 7-8 (if we do not set aside these blocks for small businesses).

[186] AirLink Comments at 12

[187] Omnipoint Comments at 3-4.

[188] PCS Coalition Comments at 9; USIW Comments at 6-7; Alliance Comments at 7 (also proposes that these provisions be extended to rural telephone companies); Phoenix Comments at 3; PersonalConnect Comments at 2; Radiofone Comments at 11; CIRI Comments at 3-4; DCR Comments at 10; Gulfstream Comments at 3-4; KMTel Comments at 5; NatTel Comments 4-5; NCMC Comments at 12; Omnipoint Comments at 2; ICGC Comments at 1; ONE Comments at 1; Mountain Solutions Comments at 7 (on condition that D and E blocks are not set-asides); Wireless 2000 Comments at 2. *See also* Iowa Comments at 2, 5.

[189] Sprint Comments at 7; BellSouth Comments at 14; US West Comments at 2; TDS Comments at 8-9.

[190] BellSouth Reply Comments at 6.

[191] General Wireless, Inc. Comments at 3-4 ("GWI")

decrease the value of C block licenses at a time when C block licensees will be attempting to secure financing for their buildout.[192] Other arguments in opposition to extending installment payments to the D and E blocks are that this approach would frustrate bidders' expectations created by the existing rules;[193] it calls into question the rationale for the entrepreneurs' block;[194] instead of awarding licenses to the entities that value them the most, it could result in awarding licenses to entities that value the government's loans the most;[195] and it has given C block winners a windfall that should not be repeated in future auctions.[196]

71. Decision. We decline to extend installment payment plans or any other special provisions to small businesses bidding on the D and E blocks. We believe that the special provisions for small businesses in the F block rules sufficiently further our objective of encouraging wide dissemination of broadband PCS licenses.[197] We note that in the recently completed C block auction, almost 90 entrepreneurs and small businesses won 30 MHz broadband PCS licenses.[198] Our F block rules will create additional opportunities for entrepreneurs and small businesses to acquire 10 MHz licenses. Further, since the F block is an entrepreneurs' block, it guarantees that one third of the 10 MHz broadband PCS licenses will be assigned to entrepreneurs and small businesses. Larger entities are prevented from acquiring F block licenses.

72. Commenters contend that we would undermine the justification for the F block as an entrepreneurs' block if we were to open the D and E blocks to special provisions for small businesses.[199] We agree and believe that departing from our original plan to establish two contiguous blocks of broadband PCS spectrum for the exclusive use of entrepreneurs and small businesses is not warranted. We set aside one third of broadband PCS spectrum for small businesses and we believe this fulfills our obligation under Section 309(j). Many

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[192] *Id.*

[193] AT&T Comments at 6; GWI Comments at 2-3; TDS Reply Comments at 6.

[194] BellSouth Comments at 14

[195] US West Comments at 2; *see also* Allied Comments at 5 and AT&T Reply Comments at 4.

[196] Western Comments at 30.

[197] *Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 458.

[198] BDPCS, in the C block auction, defaulted on its 17 licenses. *See* Emergency Petition for Waiver of Deadline for Submission of Down Payment for the Broadband PCS C Block Auction filed by BDPCS, Inc., *Order*, DA 96-811 (May 20, 1996)("*BDPCS Order*") *recon. denied, Order on Reconsideration*, DA 96-874 (May 30, 1996). *See also* National Telecom PCS, Inc. Request for Waiver of Withdrawal Payment, *Order*, DA 96-873 (May 30, 1996) ("*NatTel Order*")

[199] *See, e.g.*, AT&T Comments at 6; GWI Comments at 2-3; BellSouth Comments at 2; TDS Reply Comments at 6.

advocates of extending small business provisions to the D and E blocks argue that it will enhance competition for those licenses. We believe, however, that the auction of these two blocks will be very competitive, with participation by local exchange carriers, cellular carriers, PCS carriers, cable companies, public utilities, entrepreneurs and small businesses -- all of whom are eligible to bid for these licenses.

D. Adjusting Payment Provisions for 10 MHz Licenses

73. Background. We recognized in the *Notice* that winning bids for the D, E, and F block licenses, which authorize the use of 10 MHz, could be lower than those for the 30 MHz A, B, and C block licenses. Accordingly, we sought comment on whether we should adjust the terms of our installment financing provisions to reflect the expected lower values of the 10 MHz licenses. Similarly, we sought comment on whether our F block rules establishing discounted upfront payments and reduced down payments for entrepreneurs should be adjusted. Our rules currently require participants in the F block auction to submit an upfront payment of $.015 per MHz per pop (or per bidding unit) for the maximum number of licenses (in terms of bidding units) on which they intend to bid.[200] Winning bidders in entrepreneurs' block auctions are required to supplement their upfront payment with a down payment sufficient to bring their total deposits up to 10 percent of their winning bid(s).[201] Under our current rules, a winning bidder in the F block auction would be required to submit five percent of its net winning bid within five days of the close of the auction, and the remainder within five days of the award of the license.[202]

74. Comments. Some commenters took issue with our statement that winning bids for the D, E, and F blocks, because they are for 10 MHz licenses, could be lower than those for the 30 MHz A, B, and C blocks, generally arguing that license valuation is complex and subjective.[203] For this reason, several commenters objected to adjusting the installment payment plans, upfront payments, or down payments.[204] In contrast, Conestoga asserted that

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[200] 47 C.F.R. § 24.716(a)(1). The term "MHz-pops" is defined as the number of megahertz of the spectrum block multiplied by the population of the relevant service area. This measurement may also be referred to as "bidding units." The MHz-pops/bidding units measurement is used in the activity rules, stage transition rules, and bid increment rules.

[201] *See Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5593. *See also* 47 C.F.R. § 24.711(a)(2) and 47 C.F.R. § 24.716(a)(2).

[202] 47 C.F.R § 24.716(a)(2).

[203] AirLink Comments at 13; Alliance Comments at 7; NatTel Comments at 3. *See also* PCIA Comments at 11-12.

[204] Sprint Comments at 3-4; Auction Strategy Comments at 3; USIW Comments at 7; Alliance Comments at 7; Liberty Comments at 7-8; Antigone Comments at 8; NCMC Comments at 10; Mid-Plains Comments at 4-5; *see also* NY Coalition Comments at 5-6; TPCS Comments at 4; Wireless 2000 Comments at 2; PCIA Reply Comments at 3-4.

upfront payments and down payments should be lowered to reflect the expected lower value of 10 MHz licenses.[205]

75. NCMC believes that it is not necessary to increase the down payment and upfront payment requirement because the Commission has not seen significant bidder default outside of IVDS.[206] AirLink, on the other hand, supports increased upfront and down payments because they reduce the likelihood of bidder default.[207] Western advocates a substantially increased upfront payment and suggests $.20 per MHz-pop.[208] AT&T also urges the Commission to increase the upfront payment amount for all three spectrum blocks to ensure the availability of adequate funds to cover default payments and suggests a $.10 per MHz-pop upfront payment.[209] AT&T further proposes that we require applicants to supplement their upfront payments during the auction whenever their payment balances fall below a certain percentage of their bids.[210] Go argues that bidders should be required to submit an upfront payment equal to 20 percent of the total amount bid during auction.[211] To simplify cross-over bidding by small businesses in the D and E blocks, Auction Strategy believes that upfront payments should be the same for all blocks and bidder types.[212] With respect to the down payment requirement, Sprint advocates a 20 percent requirement for F block winners;[213] PersonalConnect suggests 25 percent;[214] and CIRI suggests 30 percent.[215]

76. Decision. We do not dispute commenters' contentions that it is difficult to predict how high bids will go for the 10 MHz licenses given the disparity between the prices paid for the A and B block licenses and the high bids for the C block licenses. Whether the ultimate D, E, and F block bids are higher or lower than those for the 30 MHz licenses, however, we

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[205] Conestoga Comments at 3; *see also* Leong Comments at 3 (arguing that a 5 percent down payment should apply for very small businesses); WPCS Comments at 6.

[206] NCMC Comments at 14; *see also* PCIA Comments at 14

[207] AirLink Comments at 8-10. *See also* CIRI Reply Comments at 5; NextWave Reply Comments at 7.

[208] Western Comments at 31-32 n.29 and Reply Comments at 21.

[209] AT&T Comments at 8; *but see* NTCA Reply Comments at 3.

[210] AT&T Comments at 8; *see also* Go Communications Corp Comments at 3 ("Go"). *But see* PersonalConnect Reply Comments at 3.

[211] Go Comments at 1.

[212] Auction Strategy Comments at 4.

[213] Sprint Comments at 4

[214] PersonalConnect Comments at 3.

[215] CIRI Comments at 7

conclude that our installment payment plans and our upfront payment and down payment requirements should be adjusted. These adjustments are based primarily on the fact that license values in the A, B, and C blocks have exceeded expectations. We are also concerned, based on BDPCS's default in the C block auction, that there is a need to obtain a higher payment up front to guard against default.[216]

77. We therefore modify the upfront payment requirement for the F block to raise it to the same level as the D and E block requirement and eliminate the discount previously provided to entrepreneurs. We originally discounted upfront payments for entrepreneurs because their down payment requirement was low (5 percent) and we were concerned that if we required them to pay upfront payments larger than the required down payment we might discourage their participation.[217] Our experience to date, however, indicates that we have underestimated the value of spectrum and that upfront payments have not created a barrier to entrepreneur participation in our auctions. We also agree with Auction Strategy that requiring a uniform upfront payment (per bidding unit) of all bidders for D, E, and F block licenses will greatly simplify the auction process for bidders interested in bidding on two or more of the blocks. We also believe that if we conduct a single simultaneous multiple round auction of the D, E, and F block licenses, it is necessary for operational reasons to have the same upfront payment and activity requirements across all three blocks.

78. Further, because we want our payment terms to more accurately reflect the value of the licenses, we will raise the upfront payment requirement for all three blocks. We believe that this action is consistent with our policy reason for requiring upfront payments -- to deter insincere and speculative bidding and to ensure that bidders have the financial capability to build out their systems.[218] Our formula for calculating upfront payments was intended to approximate 5 percent of the estimated license value.[219] Based on the license values established in the completed PCS auctions, however, the formula of $0.02 per MHz-pop underestimates actual value. We also agree with AT&T's argument that increased upfront payments will accomplish the objective of providing adequate funds to cover default payments. We note, for example, that in the cases of the BDPCS and NatTel's defaults, we have insufficient funds on hand to cover their default payments.[220] AT&T suggests $.10 per

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[216] *See BDPCS Order*; *see also NatTel Order*

[217] *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5600.

[218] *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2379.

[219] *See Id.*

[220] BDPCS paid an upfront payment of $7 million. NatTel paid an upfront payment of $50,000. Under 47 C.F.R. § 1.2104(g)(2) their default payment is the difference between the amount that they bid and the amount of the winning bid the next time the license is offered for auction, plus 3 percent of the subsequent winning bid. If the subsequent winning bid exceeds their defaulting bids, the 3 percent payment will be calculated based on their defaulting bid amount. Because their default payments cannot be determined yet, they are required to make a

MHz-pop as the upfront payment for the D, E, and F blocks. We choose, however, to adopt an upfront payment of $.06 per MHz-pop for the D, E, and F blocks. Based on our analysis of the prices paid in the C block auction, we believe that such an upfront payment is sufficient to ensure sincere bidding and guard against defaults. This upfront payment for the D, E, and F blocks equals approximately 5 percent of the market value of the C block licenses.[221] We also delegate authority to the Wireless Telecommunications Bureau to modify the upfront payment requirement for any C block licenses that are reauctioned in the future. We note that we also favor the approach suggested by AT&T that would require applicants to supplement their upfront payments during the auction to ensure that their payment is a certain percentage of their bids. Operationally we cannot implement this proposal at this time, but we will look for ways to implement it in future auctions.

79. For similar reasons, we also modify our rule governing down payments for the F block. We find that a 20 percent down payment, the same down payment that is required of D and E block auction winners, should be required of F block winners. Under this approach, F block entrepreneurs and small businesses will be required to supplement their upfront payments to bring their total payment to 10 percent of their winning bid within 5 business days of the close of the auction. Prior to licensing, they will be required to pay an additional 10 percent. The government will then finance the remaining 80 percent of the purchase price. We believe an increased down payment will provide us with strong assurance against default and sufficient funds to cover default payments in the unlikely event of default.[222] Increasing the amount of the bidder's funds at risk in the event of default discourages insincere bidding and therefore increases the likelihood that licenses are awarded to parties who are best able to serve the public.

E. Rules Regarding the Holding of Licenses

80. Background. Current rules allow no transfers or assignments of entrepreneurs' block licenses in the first three years after licensing and permit transfers and assignments to entrepreneurs in years four and five with no restrictions after year five.[223] In the *Notice*, we tentatively concluded that our current transfer restrictions for F block licensees may be too restrictive and we proposed to amend the holding requirement to let all F block licensees

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deposit of 20 percent of their defaulting bid. *See Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at n. 51. Therefore, BDPCS is required to deposit $174,756,782.55 and NatTel is required to deposit $82,200.15.

[221] We note that increasing the upfront payments for the D, E, and F blocks provides an indirect benefit to small businesses because it will raise more funds for the Telecommunications Development Fund, which exists to assist small businesses through loans, investments, or other extensions of credit. 47 U.S.C. § 614.

[222] *See* Sprint Comments at 4 (a higher down payment requirement "could serve as a valuable reality check"); PersonalConnect Comments at 3 (increasing down payment "would dampen . . . speculation").

[223] 47 C.F.R. § 24.839.

transfer their licenses within the first three years to an entity that qualifies as an entrepreneur.[224]

81. Comments. Most commenters agree with our proposal to relax the transfer restrictions for F block licensees.[225] For example. Devon argues in favor of this proposal because it believes that it will ensure that spectrum is being used efficiently and that the public is being adequately served.[226] Several commenters suggest that we should expand our proposal to include C block licensees also.[227] For example, GWI asserts that because the C block auction and the F block auction are designed to serve the same statutory objective of ensuring opportunities for small businesses, the Commission's proposed change should apply to both blocks.[228] Bear Stearns advocates relaxing the transfer restriction to give potential lenders and investors more assurance that in case of financial distress, it will be possible to replace the original entrepreneur with another qualifying entrepreneur in advance of an actual default. Other alternatives to our proposed rule change offered by commenters include eliminating the three-year restriction completely;[229] instituting a permanent requirement that licenses be transferred only to like entities;[230] and allowing transfers to small and very small businesses but not to entrepreneurs or other entities.[231] Further, KMTel proposes that we eliminate the unjust enrichment provisions for the C block contained in Sections 24.711(e) and 24.712(d) of our rules because bidders have effectively "bid away" the discounts.[232] Finally, DCR requests that we clarify that our transfer restriction does not apply to *pro forma*

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[224] *Notice* at ¶ 62.

[225] Cellular Telecommunications Industry Association Comments at 3 ("CTIA"); Alliance Comments at 8; DCR Comments at 12; Devon Comments at 14; GWI Comments at 6-7; NatTel Comments at 5; NCMC Comments at 14; Wireless 2000 Comments at 2; WIDS Comments at 1; WPCS Comments at 7; PCIA Comments at 14.

[226] Devon Comments at 14

[227] US West Comments at 8; GWI Comments at 7-8; PersonalConnect Comments at 4; Bear Stearns & Co., Inc. Reply Comments at 2 ("Bear Stearns").

[228] GWI Comments at 7-8.

[229] Auction Strategy Comments at 3; PCIA Reply Comments at 5.

[230] TEC Comments at 9-10; Iowa Comments at 3; Mountain Solutions Comments at 4-5. *See also* Antigone Comments at 9 (proposing that we amend the transfer restrictions for the C and F blocks to allow transfers at any time to women-controlled small businesses).

[231] Columbia Comments at 2

[232] KMTel Comments at 6

transfers or assignments.[233]

82. AirLink and Conestoga, on the other hand, oppose our proposal because they believe that it will fuel speculation and possibly collusion.[234] Sprint argues in favor of the current rule because it believes that it is not too restrictive and that it should be kept consistent with the C block rule.[235]

83. Decision. We will relax the holding requirement for the F block auction winners. Specifically, we will modify the rule to permit transfers and assignments of licenses to other entrepreneurs, including small businesses, in the first five years after license grant. We further agree with GWI and Bear Stearns that it is appropriate to make the same rule change for the C block. We believe that modifying the rule in this manner provides entrepreneurs' block winners with flexibility to engage in market transactions that do not undermine our stated objective of promoting a diverse and competitive PCS market.

84. Our holding rule was established to ensure that designated entities do not take advantage of special entrepreneurs' block provisions by immediately assigning or transferring control of their licenses to non-entrepreneurs. We indicated that trafficking of licenses in this manner would unjustly enrich the auction winners and would undermine the congressional objective of giving designated entities the opportunity to provide spectrum-based services.[236] After considering the record in this proceeding, we conclude that allowing transfers and assignments in the first five years -- but only to entrepreneurs -- provides a sufficient safeguard to satisfy our concerns. A restriction on transfers and assignments for five years, rather than three years, ensures that an entrepreneur will hold and build out the license until the first construction benchmark. We also have the experience of the C block auction behind us, and understand that our strict holding requirements may actually be hampering the ability of entrepreneurs to attract the capital necessary to construct and operate their systems. In particular, lenders and investors have expressed concern about the need for more flexibility in the event of financial distress and default. Because we do not want investors to shy away from financing C and F block winners due to such concerns, we modify our holding rule today in a manner that continues to promote small and entrepreneurial ownership in broadband PCS licenses.

85. We believe that our amendment to the holding requirement serves the public interest by helping to ensure rapid and uninterrupted service to the public. We agree with

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[233] DCR Comments at 12. *See also* PCS Mobile America, Inc., Request for Declaratory Ruling, May 8, 1996 (requesting a declaratory ruling concerning the application of Section 24.839 to *pro forma* assignments of licenses).

[234] AirLink Comments at 16; Conestoga Comments at 3-4

[235] Sprint Comments at 6

[236] *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5588.

Bear Stearns that market-oriented solutions in the event of financial distress will help avoid PCS license defaults to the Commission and the accompanying investor and/or service disruption that such defaults engender.[237] Market-oriented solutions to problems of financial distress will often be preferable to the FCC reclaiming and reauctioning licenses, and we believe this amendment will promote such a result by allowing transfers to entrepreneurs who may be better prepared than the original licensee to construct and provide service.[238] We thus amend Section 24.839 of our rules to permit the transfer of entrepreneurs' block licenses in the first five years to any entity that either holds other entrepreneurs' block licenses (and thus at the time of auction satisfied the entrepreneurs' block criteria) or that satisfies the criteria at the time of transfer. There will be no restrictions on transfers after the fifth year. We note, however, that our unjust enrichment provisions will continue to apply as before.[239] We further amend our holding rule to exempt *pro forma* transfers and assignments because trafficking concerns do not exist under such circumstances.[240]

III. The *Cincinnati Bell* Remand

A. The Cellular/PCS Cross-ownership Rule

86. Background. In light of the Sixth Circuit's ruling in *Cincinnati Bell* remanding the Commission's rule limiting cellular operators' eligibility for PCS licenses, we asked for comment on whether our cellular/PCS cross-ownership rule should be relaxed or retained. Under this rule, no cellular licensee may be granted a license for more than 10 MHz of broadband PCS spectrum prior to the year 2000 if the grant will result in a significant overlap of a cellular licensee's Cellular Geographic Service Area ("CGSA") and the PCS service area.[241] After the year 2000, cellular licensees will be allowed to obtain a grant of 15 MHz of PCS spectrum in an area that overlaps significantly with their CGSA.[242] We asked

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[237] Bear Stearns Reply Comments at 4. *See also* North Coast Comments at 14-15.

[238] *See, e.g., Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 471 (lenders and entrepreneurs' block licensees are free to agree contractually to their own terms regarding situations where the licensee has defaulted on the Commission's installment payment program, and possibly other obligations). *See also* Letter from Cook Inlet Communications to William E. Kennard, April 22, 1996 (suggesting plans for dealing with C block defaults).

[239] *See* 47 C.F.R. §§ 24.711(c) and 24.712(d) and 47 C.F.R. §§ 24.716(c) and 24.717(d).

[240] *See* Implementation of Sections 3(n) and 332 of the Communications Act, *Third Report and Order*, GN Docket 93-252, 9 FCC Rcd 7988, 8160 (1994) ("*CMRS Third Report and Order*").

[241] 47 C.F.R. § 24.204(a). "Significant overlap" occurs when 10 percent or more of the population of the PCS service area is contained within the CGSA. 47 C.F.R. § 24.204(c). A CGSA is the composite of the service areas of all of the cells in the system, with certain exceptions. 47 C.F.R. § 22.903.

[242] 47 C.F.R. § 24.204(b).

commenters to address whether there are reasons for maintaining the separate cellular/PCS cross-ownership provisions or the 40 MHz PCS spectrum cap,[243] or, on the other hand, whether we should eliminate these caps in favor of a single, more relaxed 45 MHz CMRS cap.[244]

87. Comments. Most commenters support relaxing and simplifying our cellular/PCS ownership limitations by implementing a single spectrum cap.[245] A majority of those commenters that support a single cap suggest eliminating the cellular/PCS and general PCS spectrum caps in favor of the single 45 MHz CMRS spectrum cap.[246] Such commenters believe that the 45 MHz spectrum cap for all CMRS is an adequate check on the power of cellular licensees to influence the broadband PCS market.[247] More specifically, they argue that there is little risk that a cellular licensee will exert undue market power if allowed to acquire 20 MHz of broadband PCS spectrum.[248] For instance, GTE argues that the high cost of acquiring PCS licenses and constructing systems will adequately deter cellular companies from acquiring such licenses purely to prevent competition.[249] Additionally, CTIA argues that the risk to innovation by limiting cellular providers' participation in broadband PCS is a greater concern than the risk of increased market concentration or undue market power. CTIA asserts further that relaxing cellular carriers' ownership restrictions would be good for consumers because it would result in better service and lower prices.[250] CCPR asserts that, with two cellular licensees, enhanced SMR, mobile satellite service, and at least three facilities-based PCS market entrants soon to be in every service area, the competition in

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[243] Under Section 24.229 of our rules, broadband PCS licensees may not have an ownership interest in frequency blocks that total more than 40 MHz and serve the same geographic area. 47 C.F.R. § 24.229(c).

[244] Under Section 20.6 of our rules, no licensee in the broadband PCS, cellular, or SMR services regulated as CMRS may have an attributable interest in a total of more than 45 MHz of licensed broadband PCS, cellular and SMR spectrum regulated as CMRS with significant overlap in any geographic area. 47 C.F.R. § 20.6(a).

[245] *See* PCS Coalition Comments at 15; CTIA Comments at 2-4; Cellular Communications of Puerto Rico, Inc. Comments at 2-6 ("CCPR"); AT&T Comments at 9; BellSouth Comments at 3-10; Alliance Comments at 8-9; Vanguard Comments at 5; ALLTEL Comments at 8-9; PersonalConnect Comments at 4; RTC Comments at 8-9; Western Comments at 7; NextWave Reply Comments at 7-8. *See also* TPCS Comments at 4.

[246] *See* PCS Coalition Comments at 15; CTIA Comments at 2-4; CCPR Comments at 5-6; AT&T Comments at 9; BellSouth Comments at 3-10; Alliance Comments at 8-9; Vanguard Comments at 5; ALLTEL Comments at 8-9 (supporting a single modified Part 20 spectrum cap under which any non-controlling interest of 49% or less would be non-controlling interest); NextWave Reply Comments at 7-8. *See also* GTE Comments at 8-9.

[247] Coalition Comments at 15; Vanguard Comments at 5; GTE Comments at 8-9.

[248] CTIA Comments at 4; AT&T Comments at 9 and Reply Comments at 6-7; PCS Coalition Comments at 15.

[249] GTE Comments at 8

[250] CTIA Comments at 5-6 (citing Charles River Associates Analysis).

mobile telephony promises to be frenzied and true price competition among mobile telephony providers exists.[251] According to BellSouth, the 45 MHz CMRS cap will prevent cellular carriers from exerting undue market power and will not give cellular carriers a competitive advantage because it will ensure that there will be at least five separate broadband CMRS providers in each market.[252]

88. CTIA suggests that if a single 45 MHz CMRS spectrum cap is maintained, the percentage of population overlap between service areas which triggers this rule should be increased from 10 percent to 40 percent.[253] CTIA argues that the overlap restriction should be relaxed because the risk of collusion among competitors is lower than is first apparent.[254] CTIA further contends that in order for the weighted average market share of a cellular licensee acquiring a 30 MHz PCS license to exceed the 23.5 percent market share allowed a non-cellular licensee under the 40 MHz PCS cap, the population overlap would have to exceed 40 percent.[255] The Alliance proposes that MTA pops be used to calculate overlap for BTA licensees who own or acquire cellular systems within that BTA.[256] Western argues that the 10 percent standard for population overlap should be raised to at least 20 percent.[257] Western contends that permitting cellular licensees to dovetail the irregular boundaries of cellular markets with PCS markets would promote seamless wireless coverage since a PCS licensee that already provides service in rural areas on its cellular facilities is more likely to provide seamless coverage and provide wireless service to rural areas than non-cellular licensees.[258]

89. Radiofone asserts that the Commission should eliminate the cellular/PCS cross-ownership rule because there is no evidence to support such a rule, and that the 45 MHz CMRS spectrum cap should also be eliminated because it forecloses businesses such as Radiofone from obtaining a 30 MHz PCS license.[259] Radiofone contends that limiting cellular carriers to 20 MHz of PCS spectrum under the 45 MHz cap is as arbitrary as limiting them to

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[251] CCPR Comments at 2.

[252] BellSouth Comments at 7.

[253] CTIA Comments at 12-13.

[254] CTIA Comments at 6.

[255] CTIA Comments at 12-13.

[256] Alliance Comments at 8-9.

[257] Western Reply Comments at 7.

[258] Western Comments at 15-18.

[259] Radiofone Comments at 1-5; *see also* BellSouth Reply Comments at 2-3.

10 MHz under the cellular/PCS cross-ownership rule,[260] and that the cap should be eliminated for all PCS auctions.[261] Radiofone also argues that changes in the spectrum caps should be applied to all of the broadband PCS licenses in the MTAs and BTAs where Radiofone and its affiliates provide cellular service.[262] GTE also opposes any CMRS spectrum aggregation limits on the grounds that they unduly restrain legitimate business activities and are not supported by any evidence. GTE asserts, however, that if the Commission adopts a cap, the 45 MHz CMRS cap is sufficient on its own to ensure diversity of ownership.[263]

90. APC argues that the proposal to eliminate the 40 MHz PCS spectrum cap is not called for either by *Cincinnati Bell* or by current marketplace conditions.[264] APC contends that the 40 MHz cap has been successful in promoting competition, as shown by the numerous new market entrants that have emerged to bid aggressively on the 30 MHz PCS licenses.[265] APC further argues that changing the rules at this late juncture would undermine the companies' reliance on the rules.[266] Gulfstream also argues that A, B, and C block licensees should not be allowed to obtain a 10 MHz PCS license because this would encourage spectrum warehousing.[267]

91. Several commenters contend that the existing cross-ownership rule should be retained.[268] Sprint argues that liberalizing the rules after they have been in effect during the A, B, and C block auctions could seriously disadvantage entities that made business decisions based on the existing caps and thus invite legal challenge.[269] TEC believes that the current rules ensure a competitive market since cellular licensees are the only companies providing

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[260] Radiofone Comments at 3.

[261] *Id. See also* Western Comments at 7-8.

[262] Radiofone Reply Comments at 12-13.

[263] GTE Comments at 8-9.

[264] Sprint Spectrum & American Personal Communications Reply Comments at 1 ("APC").

[265] *Id.* at 4.

[266] *Id.* at 5.

[267] Gulfstream Comments at 8.

[268] *See* Sprint Comments at 9; TEC Comments at 13; Conestoga Comments at 4; CIRI Comments at 11-12; DCR Comments at 12-14; Mountain Solutions Comments at 10-11; RAA Comments at 12; Bray Comments at 2; TDS Comments at 4 and Reply Comments at 2-3; RAA Reply Comments at 3; Ameritech Reply Comments at 2; OmniPoint Reply Comments at 6-10; CIRI Reply Comments at 8; PCIA Reply Comments at 6; Columbia Comments at 2.

[269] Sprint Comments at 9; Sprint Reply Comments at 4; *see also* TDS Reply Comments at 2; Ameritech Reply Comments at 2-3

large-scale wireless telephone service to the public and PCS is a potential competitor in this market.[270] DCR asserts that cellular companies would have a distinct advantage over small companies if their entry into PCS were not restricted because cellular companies already have name recognition, existing systems, and the use of free spectrum.[271] DCR also argues that a cellular provider is more likely to use its PCS license to offer new services in a new market where it has no preexisting infrastructure of its own than in a geographic area where it has existing infrastructure and may instead expand its cellular subscriber base.[272] OmniPoint contends that the cellular/PCS cross-ownership rule is still needed because cellular providers still maintain substantial market power and advantages over new entrants, such as a strong customer base, duopoly profits for reinvestment in system infrastructure, and greater flexibility and opportunities for site locations.[273] Cox argues that removing the cellular/PCS cross-ownership cap or expanding the existing cap threatens the development of PCS as a stand-alone competitor to cellular and could relegate it to secondary status as a complementary service to cellular. Cox also argues that any move to adopt a single CMRS spectrum cap and eliminate the PCS and cellular/PCS spectrum caps must address the fact that while cellular providers could easily aggregate PCS spectrum to reach the CMRS cap with two 10 MHz PCS licenses, PCS providers will be able to acquire the same amount of spectrum only if they aggregate SMR frequencies.[274] NCMC argues that relaxation of the existing caps would only encourage warehousing of CMRS spectrum.[275]

92. KMTel and NCMC suggest that the Commission tighten its cellular/PCS cross-ownership rule and PCS spectrum cap. Both commenters support prohibiting cellular companies from holding any D, E, and F block PCS licenses where they already have cellular interests.[276] NCMC argues that the C block auction results provide new evidence that the Commission has not avoided excessive concentration of ownership or ensured the dissemination of licenses to a wide variety of applicants.[277]

93. PersonalConnect and NCMC argue that the CMRS cap should be reduced to a 35

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[270] TEC Comments at 13-14. *See also* CIRI Comments at 11-12.

[271] DCR Comments at 13-14.

[272] DCR Reply Comments at 10-11.

[273] OmniPoint Reply Comments at 9.

[274] Cox Communications, Inc. Reply Comments at 4-6 ("Cox").

[275] NCMC Reply Comment at 9.

[276] KMTel Comments at 7; NCMC Comments at 16.

[277] NCMC Comments at 17-18.

MHz limit.[278] NCMC contends that a 35 MHz cap would put all CMRS providers on level footing.[279]

94. Decision. We agree with the majority of commenters that a spectrum cap is necessary in order to avoid excessive concentration of licenses and promote and preserve competition in the CMRS marketplace. We thus decline to accept the suggestions of Radiofone and GTE that we eliminate all limitations on the amount of spectrum a single entity (or affiliated entities) may acquire. For the reasons set forth below, we will maintain the 45 MHz CMRS spectrum cap and eliminate the PCS and cellular/PCS spectrum caps. Although we eliminate the 35 MHz cellular/PCS spectrum cap remanded by the Sixth Circuit in favor of the less restrictive 45 MHz CMRS spectrum cap,[280] we also provide below additional economic support for limits on ownership of CMRS licensees.

95. We adopted the 45 MHz CMRS spectrum cap in the *CMRS Third Report and Order* in order to "discourage anti-competitive behavior while at the same time maintaining incentives for innovation and efficiency."[281] We were concerned that "excessive aggregation [of spectrum] by any one of several CMRS licensees could reduce competition by precluding entry by other service providers and might thus confer excessive market power on incumbents."[282] The continuation of the 45 MHz spectrum cap will promote competition and prevent anti-competitive horizontal concentration in the CMRS business. Up to a point, horizontal concentration can allow efficiencies and economies that would not be achievable otherwise, and can therefore be pro-competitive, pro-consumer, and in the public interest. At some point, however, horizontal concentration starts to work against those goals because it results in fewer competitors, less innovation and experimentation, higher prices and lower quality, and these disadvantages outweigh any advantages in terms of economies and efficiency.

96. For determining when concentration reduces competition to an undesirable level, one accepted tool is the Herfindahl-Hirschman Index ("HHI"), which is used in the Department of Justice and Federal Trade Commission Horizontal Merger Guidelines to measure market concentration.[283] It has been accepted by courts and this Commission in

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[278] PersonalConnect Reply Comments at 3-4.

[279] NCMC Reply Comments at 9.

[280] The 45 MHz CMRS spectrum cap was not before the court in the *Cincinnati Bell* case. 69 F.3d at 765, n. 6.

[281] *CMRS Third Report and Order*, 9 FCC Rcd at 8105.

[282] *Id.* at 8101.

[283] *See* 1992 Department of Justice - Federal Trade Commission Horizontal Merger Guidelines, 4 Trade Reg. Rep. (CCH) ¶ 20,569, § 1.5 ("DOJ/FTC Guidelines").

numerous cases as a preliminary test of permissible and impermissible horizontal concentration.[284] We find the HHI to be useful in the present situation because we lack empirical data about the actual performance of a market that includes both cellular service and fully deployed broadband PCS, which is under construction in almost all markets. An HHI analysis produces a number showing the degree of horizontal concentration in the market: an HHI of less than 1,000 shows an unconcentrated market, in which horizontal concentration is not a concern; an HHI between 1,000 and 1,800 shows a moderately concentrated market, in which certain ownership combinations "potentially raise significant competitive concerns depending on [certain] factors"; and an HHI over 1,800 shows a highly concentrated market, in which certain combinations "are likely to create or enhance market power or facilitate its exercise" unless a strong showing to the contrary is made.[285] In order to apply the HHI, a measurement of market share (*e.g.*, in terms of customers, revenues, capacity or similar gauges) is necessary. Allocated spectrum is an appropriate measurement of market share for the purpose of analyzing the need for a spectrum cap because it is a measure of a CMRS carrier's long-term capacity and is easily available to the Commission. Capacity has been accepted in antitrust cases as a valid measure of market share.[286] The 45 MHz CMRS spectrum cap is a simplified version of the HHI, using spectrum capacity as the measurement of market share as it limits the amount of licensed spectrum capacity that any one person or entity may have.

97. In addition to considering the arguments presented by commenters in this proceeding and in response to the Sixth Circuit's concern about the lack of economic support for the cellular/PCS spectrum cap,[287] the Commission's competitive analysis staff performed an HHI analysis for various possible structures of a hypothetical market for mobile two-way voice communications service in the same geographic area. This analysis is set forth at Appendix A. In this market, the capacity in a local market is represented by the licensed spectrum for cellular service (two licenses for 25 MHz), broadband PCS (three licenses for 30 MHz and three licenses for 10 MHz), and the largest potential interconnected SMR provider (holding multiple licenses for a total of 10 MHz).

98. The Commission staff's HHI analysis indicates that the 45 MHz CMRS spectrum

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[284] *See, e.g.*, Craig O. McCaw, *Memorandum Opinion and Order*, 9 FCC Rcd 5836, 5856-57 (1994), *recon. denied, Memorandum Opinion and Order on Reconsideration*, 10 FCC Rcd 11786 (1996), *aff'd sub nom. SBC Communications, Inc. v. FCC*, 56 F.3d 1484 (D.C. Cir. 1995).

[285] DOJ/FTC Guidelines, § 1.51(a)-(c).

[286] *See, e.g., United States v. General Dynamics Corp.*, 415 U.S. 486, 501-03 (1974) (uncommitted capacity was measure of market share in business (coal mining) where most sales were made pursuant to long-term contracts that had absorbed most of the total capacity of the business). *See also* Section on Antitrust Law, ABA, ANTITRUST LAW DEVELOPMENTS (THIRD), Vol. I at 300 & nn.139-41 (citing cases where capacity is used as the measure of market shares); DOJ/FTC Guidelines, § 1.41.

[287] *Cincinnati Bell*, 69 F.3d at 763.

cap is needed to prevent undue market concentration and the noncompetitive conditions in local markets that result from such concentration. The pre-PCS market situation, consisting of two cellular carriers each with 25 MHz has an HHI of 5,000 -- extremely high concentration.[288] The two, overlapping cellular carriers are already prohibited from owning more than a 5 percent interest in each other.[289] The addition of a third carrier, an SMR provider with 10 MHz, lowers the HHI only to 3,750.[290] Adding the spectrum capacity provided by the issuance of new PCS licenses, if there was no spectrum cap, might result in the two cellular incumbents dividing all the PCS spectrum between themselves. With no new entrants, this would leave the HHI at its previous high level,[291] defeating a major purpose of the Commission in creating broadband PCS -- to bring more competition into the concentrated mobile telephony market.[292] The analysis also shows that, even if there was somewhat less common ownership of PCS spectrum by incumbent cellular operators, the market would still be very highly concentrated without a cap on the ownership of spectrum capacity. For example, if each cellular carrier obtained a 30 MHz PCS license and a 10 MHz PCS license, another 40 MHz of PCS spectrum were held by a new entrant, and the SMR operator remained at 10 MHz, the HHI would still be 3133, far into the "highly concentrated" category.[293]

99. In addition to these hypothetical results if there is no spectrum cap, we note that there are other factors that create a significant risk of such excessive concentration becoming reality. First, while new entrants can de-concentrate many businesses, CMRS markets have significant barriers to entry, most notably the need for spectrum, the expense of obtaining the license and the high costs of construction and operation of new communications systems. Thus, there would be little potential for new entrants to discipline the behavior of the incumbents in the absence of any spectrum cap. Second, the use of competitive bidding for assigning PCS licenses, or the cost of obtaining licenses in a post-auction market (*i.e.*, private auctions), would put incumbents at an inherent advantage over new entrants. Economic theory teaches that auctions are won by the bidder who puts the highest value on the property being auctioned. The value of the PCS licenses to the incumbent providers would be their continued economic rents (profits in excess of economic costs), which could be higher than the anticipated profits of any new entrant into a more competitive market. Incumbent firms may thus be willing to pay even more for the chance to impede entry than for the chance to

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[288] *See* Appendix A, Table 1B.

[289] 47 C.F.R. § 22.942.

[290] *See*, Appendix Table 1C.

[291] *See Id.*, Table 1E.

[292] *See* Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, First Report, 10 FCC Rcd 8844, 8846, 8859, 8867 (1995).

[293] *See*, Appendix Table 1F.

compete vigorously against new entrants. In such an event, the incumbent cellular and SMR licensees would be more likely to win all or most of the PCS licenses at auction, or pay above auction prices in the private, post-auction transactions. Accordingly, Congress specifically instructed the Commission to craft its rules for auctionable spectrum licenses to avoid excessive concentration of licenses and provide economic opportunities to a wide variety of applicants.[294]

100. Having a 45 MHz CMRS spectrum cap, in contrast to the above-described scenarios without a spectrum cap, will result in a market that has an HHI below 1,900, a tremendous improvement over a two- or three-competitor market. Although some scenarios under the 45 MHz cap could produce an HHI above 1800 (*i.e.*, 1898),[295] which the DOJ/FTC Guidelines would characterize as a highly concentrated market, we believe that, due to certain factors, the risk that significant competitive harm will occur is probably low in most cases. First, there are several other communications services each of which has some, though by no means full, cross-elasticity with cellular, broadband PCS, and interconnected SMR services. These other services are paging, narrowband and unlicensed PCS, 220 MHz service, air-ground service, maritime service, satellite-based mobile services, General Mobile Radio Service, General Wireless Communications Service, interconnected private radio systems, CB radio and other "low end" services, government radio systems, resellers of the foregoing services, and some wired local exchange service. Collectively, these services exert some competitive pressure on cellular, broadband PCS and interconnected SMR that is not reflected in the HHIs calculated by the Commission's competitive analysis staff. There is significant precedent for the use of such competitors as a mitigator of HHIs that are above optimum levels.[296] Also, under the DOJ/FTC Guidelines, a highly concentrated market produces competitive concerns depending on certain factors, including how easy or difficult "coordinated interaction" is among the competitors, and whether entry by new competitors will be possible.[297] Most plausible scenarios under the 45 MHz cap show at least six competitors, reducing the risk of coordinated interaction. With respect to entry, as the Commission allocates and assigns spectrum for more services that have some cross-elasticity of demand with broadband CMRS (cellular, broadband PCS, and wide-area SMR), a certain amount of increased competition from new competitors could open up more opportunities to

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[294] 47 U.S.C. § 309(j)(3)(B); *see also supra* ¶ 16.

[295] *See* Appendix A, Table 2E.

[296] For example, in bank mergers where the HHIs of a relevant market consisting only of banks and savings and loans are above optimum levels, federal regulators often note the existence of credit unions and other "quasi-banks" as a successful defense to charges of uncompetitive concentration. Where the latter institutions are present, the regulators state that HHIs may exaggerate the actual degree of concentration. *See, e.g.*, Keycorp, 81 Fed. Res. Bull. 286, 288 & n.12 (1995) (HHI of 2,167); West One Bank, Idaho, 80 Fed. Res. Bull.175, 176 (1994) (HHI of 3833); First Hawaiian, Inc., 77 Fed. Res. Bull. 52, 55-56 & nn.25, 29 (1991) (HHIs between 2696 and 3455).

[297] DOJ/FTC Guidelines, § 2-3.

enter the market. Additional opportunities to obtain spectrum may also arise through rules allowing for spectrum disaggregation and geographic partitioning, which are currently under consideration by the Commission.[298] In addition, the Commission is taking other significant steps to reduce entry barriers for entrepreneurs and small businesses pursuant to Sections 309(j)(3), 309(j)(4) and 257 of the Communications Act.[299] Given these factors, we believe that concentration levels of 1,900 are acceptable and we conclude that the 45 MHz spectrum cap is necessary to prevent the CMRS market from becoming highly concentrated and to avoid an excessive concentration of licenses.

101. The 45 MHz spectrum cap is also needed specifically to prevent cellular licensees from gaining too great a competitive advantage over new entrants to the wireless telephony market.[300] Cellular companies already hold licenses for 25 MHz of clear spectrum, and they already have technical expertise, customer bases, marketing operations, and antenna and transmitter sites.[301] In short, cellular operators have a competitive position that is superior to that of any new market entrant. They also have strong incentives to preserve that existing advantage. By limiting current cellular licensees to an additional 20 MHz of spectrum (*i.e.*, two of the three 10 MHz broadband PCS licenses), the 45 MHz cap will help to level the playing field for all new entrants, while ensuring that incumbent providers are not placed at any disadvantage. We therefore disagree with Radiofone's assertion that the 45 MHz CMRS spectrum cap should be eliminated because it arbitrarily prevents cellular carriers from obtaining large amounts of PCS spectrum.[302]

102. Our 45 MHz spectrum cap also furthers the goal of diversity of ownership that we are mandated to promote under Section 309(j). Section 309(j) directs us, in specifying eligibility for licenses and permits, to avoid excessive concentration of licenses and disseminate licenses among a wide variety of applicants.[303] The statute further states that in prescribing regulations, the Commission must, *inter alia*, prescribe area designations and

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[298] *See supra* note 55.

[299] *See generally Market Entry Notice of Inquiry; Competitive Bidding Sixth Report and Order*, 11 FCC Rcd at 138; *supra* note 9.

[300] We note, however, that as more spectrum of a flexible nature is auctioned, our concerns regarding concentration could significantly diminish. *See, e.g.*, Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, *Notice of Proposed Rule Making*, WT Docket No. 96-6, 61 Fed. Reg. 6,189 (Feb. 16, 1996).

[301] *See* DCR Comments at 13-14. CTIA also estimates that at year-end 1995 there were approximately 33.8 million cellular subscribers. *U.S. Wireless Industry Survey Results: More than 9.6 Million Customers Added in 1995*, Cellular Telecommunications Industry Association News Release, Mar. 25, 1996.

[302] Radiofone Comments at 3.

[303] 47 U.S.C. § 309(j)(3)(B).