In his inaugural address in 1993, President Clinton posited a rhetorical link between communications technology and American economic aspiration. "Communications and commerce are global; investment is mobile; technology is almost magical; and ambition for a better life is now universal." Less than a month later, the President's "Vision of Change for America" made a much more direct connection between communications technology and the economy. By auctioning Federal Communications Commission ("FCC" or "Commission") licenses to the highest bidder, the President wrote, the Treasury could bring in $4.1 billion in four years. Thus the Administration pressed for legislation to authorize FCC license auctions, a goal valued by conservative economists since at least 1959 and by Republican administrations since 1980.

Congress responded in record time by crafting bipartisan legislation that has permitted the FCC to obtain bids totalling more than $4.0 billion by licensing new communications technologies through a competitive bidding process — with by far the largest results yet to come. The FCC, in turn, has embraced license auctions and has quickly established a regulatory regime that will issue thousands of licenses through competitive bidding in 1995.

Advocates of FCC auctions long have argued that the marketplace can allocate spectrum licenses more efficiently than can regulators. These advocates argue that, if left unregulated, the marketplace will provide FCC licenses to those who will put them to their utmost use. Under this view, raising revenue should not be the main goal of effectuating auctions; rather, the goal should be to use bidding as a mechanism to ensure that licenses are awarded to those who will use them most efficiently. Others, however, have feared that cash-poor, but idea-rich entrepreneurs would be excluded from the process by an auction of FCC licenses to the highest bidder. "The problem with cash auctions is that there is absolutely no historical correlation between having useful ideas and having cash," one witness testified before Congress. "In fact, it is often pretty much the opposite." Still others have feared that the traditional policy goals of fostering opportunities for small businesses and minority and women-controlled entities could fall by the wayside in a pure auction environment.

The legislation that authorized FCC license auctions balances the tension between reaching the cur-
rent budget target of more than ten billion dollars and preserving opportunities for small businesses, woman and minority-owned businesses, rural telephone companies, broadcasters, and innovators who pioneer new communications services or technologies. The FCC swiftly implemented this legislation and has held three auctions to date. On December 5, 1994, the FCC began the process of auctioning more than 2,000 licenses for broadband personal communications services (“PCS”), a next-generation digital wireless telephony service that will compete with cellular and, eventually, with wired local exchange carriers.

This Article discusses the procedural shift from the comparative hearings and lottery processes to potentially lucrative license auctions that will have ubiquitous implications for communications law and policy. Part I describes the FCC’s unprecedented departure from the traditional usage of comparative hearings and lotteries to award licenses to qualified applicants. Part II examines the policy goals and practical realities inherent in the competitive bidding process and explains what this shift in licensing procedure does not accomplish. Part III provides an in-depth look at the rules involved in the competitive bidding process, including the sequence and structure of the auctions and the regulatory safeguards for designated entities. Part IV concludes that the use of competitive hearings to auction valuable spectrum will have far-reaching effects throughout the entire communications industry and will encourage the most sincere and financially committed applicants.

I. BACKGROUND: A DRAMATIC DEPARTURE FROM PAST PRACTICE

The Communications Act of 1934 (“1934 Act”) and the policies that developed from it embody a significant number of societal goals. These goals include the fostering of new telecommunications technologies; the maintenance of a system of free over-the-air television and radio distribution; universal access to basic telephone services; the promotion of public access to diverse sources of information; the limiting of foreign ownership and control of domestic communications facilities; and the facilitation of fair participation in democratic processes. Although legislators and regulators can encourage licensees to effectuate these goals, the ultimate success or failure of our communications system depends upon the efforts of the private entities that are licensed to provide communications services to the public.

Because of both the dependence upon FCC licensees to effectuate the goals of the 1934 Act and the demand for scarce frequencies, the decisions surrounding how to issue licenses and which applicants to select to hold licenses have taken on predominant importance. Licenses sought by more than one party traditionally have been issued only after exhaustive administrative hearings to determine which applicant would better serve “the public interest, convenience and necessity.” This is known as the comparative hearing process. For broadcast stations, the FCC applies standard criteria to determine which applicant should be awarded a license. These factors have included: diversification of media control, participation in management by station owners, proposed program service, past broadcast record, efficient spectrum use, character, financial capability, and minority ownership.

Comparative hearings, however, have been criticized heavily for imposing excessive delays and costs on both the applicants and the public and for “requiring hair-splitting speculative judgments about which applicant is most qualified.” These criticisms focus largely on services in which performance promises of applicants are less important. For example, difficulties in choosing among applicants were noted in early cellular hearings prior to the implementation of lotteries. Streamlined hearing procedures significantly improved the efficiency of the comparative hearing process; however, the use of hearings to award FCC licenses seldom has been used outside of the area of broadcast services.

In 1981, Congress added another option to the FCC’s license selection methods by authorizing the use of random selection (lotteries) to choose licensees. In their relatively short lifespan, however, lot-

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* Policy Statement, supra note 7, at 394-99.

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10 See 47 U.S.C. § 309(i) (1988 and Supp. I 1994). Lotteries have been used to issue licenses for cellular telephony, paging, low-power television, certain interactive video and data service (“IVDS”) markets, and wireless voice and data transmission services. The FCC followed a standard lottery procedure whereby applicants were assigned a ping-pong ball (or two, if a minority preference was merited in a broadcast service) and tentative selectees then were drawn from a bingo-type machine by FCC officials. New computer programs for random selection
Censes. Although lotteries have not suffered from the decisional difficulties that have plagued the comparative hearing process, they have tended to attract some applicants that have little interest in building and operating high-quality communications systems. Disappointed applicants often resort to filing “petitions to deny” against lottery winners—a practice that often leads to the protracted administrative hearings that are precisely the result lotteries were intended to avoid. Additionally, lotteries are perceived by many as fostering a subsequent “private auction” administered by lottery winners.

Consequently, competitive bidding was seen by many both in Congress and at the FCC as the promising alternative that would remedy the defects of the lottery system, without requiring the time and resources demanded by the comparative hearing process.

II. THE ADVENT OF COMPETITIVE BIDDING

On August 10, 1993, Congress passed the Omnibus Budget Reconciliation Act of 1993 (“1993 Act”), which added a new Section 309(j) to the Communications Act. Section 309(j) authorizes the Commission to issue licenses by means of competitive bidding. Although the authority to issue licenses by means of competitive bidding is a radical departure from past methods of allocating FCC licenses, it is crucial to bear in mind what this shift in procedure does not accomplish.

First and most importantly, the use of auctions will not alter the way the FCC manages the public resource of the electromagnetic spectrum. The spectrum, as a whole, runs from audible sound to visible light and only a relatively small portion of the spectrum (from 9 kilohertz to 300 gigahertz) is useful for carrying electromagnetic signals with current technology. Currently, as a result of negotiations with international allocation bodies and the executive branch, the FCC decides which portion of the spectrum will be allocated to which communications service. For example, television broadcasting occupies 402 megahertz (“MHz”) in various locations of the 54-806 MHz band (some of which is shared with land mobile services); FM radio occupies 20 MHz in the 88-108 MHz band; cellular occupies 50 MHz in the 824-849 and 869-894 MHz bands; licensed broadband PCS has been allocated 120 MHz in the 1850-1990 MHz band. The FCC, along with the executive branch and international bodies, will continue to decide where in the spectrum new services should be placed.

Accordingly, applicants will bid for licenses to provide specific services rather than for the carte blanche opportunity to implement some service of their choice on a generic spectrum block. This means that licensees will receive rights akin to a land-use permit rather than a fee simple, even if the license is obtained by auction at a price of millions of dollars. Some auction advocates have urged a more radical change, under which blocks of spectrum would be auctioned generically and the winning bidder could decide what service to institute. For example, a bidder could win a block of spectrum and start a new television service, a competitive cellular service, or some other service that had not been authorized by the FCC. One variant on this approach, posited by some FCC economists, would permit existing FCC licensees to use their spectrum flexibly. A UHF television station in a large city could, for example, use its 6 MHz of spectrum to operate a cellular-like service instead of a television service. The passage of auction legislation does not accomplish either result, but instead, merely permits the FCC to accomplish the final stage of its analysis—which applicant should hold a license—by using competitive bidding.

Consequently, FCC licensees who win an auction and who are licensed will have the same rights and responsibilities as licensees who obtain licenses by hearing or by lottery. Licensees who have obtained a license through the auction process, will not “own” the spectrum to which they are assigned; no licen...
sees, regardless of how a license is issued, may obtain a property right in publicly owned spectrum. These licensees are required to apply for license renewal after a term of years, exactly as current licensees must do. In addition, they will remain subject to FCC disciplinary procedures, including liability for fines, forfeitures, and license revocation.

Second, the shift to competitive bidding will not permit the FCC to use the expectation of revenue as a determining factor in deciding how to allocate spectrum among different services. The legislation does not, for example, empower the FCC to allocate spectrum only to lucrative commercial services (such as cellular telephony) rather than to non-profit uses of the spectrum (such as public broadcasting) in an urge to balance the federal budget. The public interest continues to be the touchstone. In fact, Section 309(j)(7) of the Act prohibits the Commission from considering "the expectation of Federal revenues" in making its decisions. Furthermore, the legislative history of the 1993 Act explicitly states that the FCC should not permit the issue of revenue potential to take precedence over the public interest:

The Committee intends the FCC to make its decisions based on sound communications policy pursuant to the Communications Act. The Committee is not a collection agency of the U.S. Government, and should not . . . be influenced by budgetary considerations. This paragraph [§309(j)(7)] is designed to insulate the FCC's communications policy decisions from budgetary pressures, and clarifies that important communications policy objectives should not be sacrificed in the interest of maximizing revenues from auctions.

The goals of serving the public interest and maximizing auction revenues for competing commercial uses of the spectrum necessarily have some degree of practical overlap. As a result, those services that are demanded most highly by the public, and proposals to structure those services to best serve the public, almost by definition should raise a maximum amount of auction revenue in the licensing process.

Third, the competitive bidding process that ultimately will emerge will not be a straight "cash" auction, and it would be an oversimplification to consider it to be so. For substantial numbers of licenses, the FCC permits payments to be made over a decade-long period at low interest rates to minimize the impact of competitive bidding on smaller businesses. In addition, winning bids often do not reveal the true amount the government will receive from bidders. Furthermore, some bidders already have defaulted, compelling the Commission to launch an investigation into possible bidder misconduct.

Fourth, auctions will not become the exclusive means for issuing FCC licenses. Broadcasters, for example, have been exempted entirely from license auctions. The exclusion of broadcasters from auction requirements is based on the long-standing reality that broadcast licensees already "pay" for their use of the spectrum by performing a plethora of public interest programming requirements required by Congress and the FCC. For example, broadcasters must air programming responsive to issues of concern to their community of license, and must broadcast programming serving the informational and educational needs of children. Broadcasters also must provide broadcast access to political candidates and sell candidates airtime at discounted rates.

The exemption of broadcast licensees from auctions will be particularly important for television broadcasters that soon will be granted a second tele-

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17 Also, these licenses cannot be transferred or assigned on a de jure or de facto basis without the FCC's prior consent. Id. § 310(a).
19 Id.
21 For example, because of benefits granted to minorities, women, and small businesses, the recent IVDS auctions resulted in bids of more than $200,000,000 that likely will translate into "true" revenues of at least 20% less because of bidding discounts, and may be depressed further by the likelihood that 80% of bidders will qualify for installment payments. See generally 27 IVDS Winners Skip Payments; Licenses Will Be Reauctioned, FCC REPORT, Aug. 25, 1994.
22 See In re Inquiry into Alleged Abuses of the Commission's Auction Processes by Applicants for Licenses in the Interactive Video and Data Services, Order, 9 FCC Red. 6846 (1994).
23 See 47 U.S.C. § 309(j)(2); H. REP. No. 103-213, 103d Cong., 1st Sess. 481 (1993) ("over-the-air terrestrial radio and television licenses" not subject to auctions). This broadcast exemption was retained despite the objections of the Administration, which urged that all licenses, including those for broadcast uses, be subject to auction. See Letter from Ronald H. Brown, Secretary of Commerce, to Hon. Daniel K. Inouye, Chairman, Subcomm. on Communications Comm. on Commerce, Science, and Transportation (Mar. 15, 1993) (on file with the authors).
24 See Letter from Margita E. White, President, Association for Maximum Service Television, Inc. to Hon. Ronald H. Brown, Secretary of Commerce (Apr. 14, 1993) (on file with the authors).
25 See generally 47 U.S.C. §§ 309(a) and (b) (Supp. IV 1993); see also Policies and Rules Concerning Children's Television Programming, Memorandum Opinion and Order, 6 FCC Red. 5093 (1991).
vision channel to begin a phased nationwide transition to a system of high-definition or advanced television ("ATV"). Under this program, each broadcaster will use its new ATV channel to broadcast programming that will be decodable only by ATV receivers while continuing programming for standard receivers on its existing channel. When ATV is accepted sufficiently by the marketplace, which may not occur until at least fifteen years after ATV is implemented, the broadcasters' standard operations will cease and the old channel will be returned to the FCC to be reallocated for new uses. If these returned broadcast licenses are subject to open auction, a uniform and complete transition to an ATV system will be impossible.

The FCC will be able to continue to encourage the development of new communications services and technologies by issuing licenses outside the auction process to innovators that pioneer new communications technologies and services. Additionally, auctions will not apply to the thousands of lesser-known and generally uncontested FCC licenses that are issued each year, for important but esoteric services such as remote utility meter-reading and aeronautical telemetry.

Fifth, the current legislation authorizes auctions only for the initial licensing and not for renewal applications. As a consequence, once a bidder obtains a license, the bidder will not be required to bid for that license again once the term expires.

III. THE IMPLEMENTATION OF THE FCC’S AUCTION AUTHORITY AND THE PREPARATION FOR PCS AUCTIONS

The debate on auction procedures, which will apply generically to scores of new services, has been colored substantially by the nature of broadband PCS, one of the first candidates for license auctions. In a separate PCS rulemaking proceeding, the FCC allocated 120 MHz of spectrum for licensed broadband PCS services and divided this spectrum into six blocks, three 30 MHz spectrum blocks and three 10 MHz spectrum blocks. Two 30 MHz spectrum blocks will serve Major Trading Areas ("MTAs"), while one 30 MHz spectrum block and the three 10 MHz spectrum blocks will serve Basic Trading Areas ("BTAs").

A. The Proposed PCS License Auction Process

I. Auction Sequence and Structure

The Commission will auction three different types of PCS licenses through at least three separate auctions.

The first auction, which began on December 5, 1994, was for the ninety-nine regional MTA 30

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80 47 U.S.C. § 309(j)(1), (2)(A) (Supp. 1994). The FCC may conduct auctions only where there are mutually exclusive applications for commercial services. Id. § 309(j)(1).

81 Id.

82 Id.

83 This article discusses the competitive bidding procedures for broadband PCS only. Broadband PCS will apply advanced digital technology to a wide variety of telecommunications devices, ranging from tiny, portable telephones (similar to cellular hand-held phones but at less cost and with greater clarity) to high-capacity, high-speed wireless computers and data-transmission systems. The FCC has promulgated different rules for narrowband PCS auctions. In re Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Third Report and Order, 9 FCC Rcd. 2941 (1994).

84 See In re Amendment of the Commission’s Rules to Establish New Personal Communications Services, Memorandum Opinion and Order, 9 FCC Rcd. 4957 (1994) [hereinafter PCS Memorandum Opinion and Order]. The Commission also allocated 20 MHz of spectrum for unlicensed PCS services.

85 See id; see also In re Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Fifth Report and Order, PP Dkt. No. 93-253 (July 15, 1994), paras. 33-34 [hereinafter Fifth Report and Order]. MTAs typically cover regional areas. For example, the Boston-Providence MTA covers portions of Massachusetts, Maine, New Hampshire and Rhode Island containing approximately 9.5 million people. The Boston MTA contains 14 basic trading areas ("BTAs") — Bangor, Maine; Boston; Hyannis, Mass.; Keene, N.H.; Lebanon-Claremont, N.H.; Lewiston-Auburn, Maine; Manchester-Nashua-Concord, N.H.; Pittsfield, Mass.; Portland-Brunswick, Maine; Presque Isle, Maine; Providence-Pawtucket-New Bedford, Rhode Island/Mass.; Springfield-Holyoke, Mass.; Waterville-Augusta, Maine; and Worcester-Fitchburg-Leominster, Maine. The United States is divided into 51 MTAs for a total of 102 licenses; three of these licenses will be granted to pioneer preference winners and thus will not be auctioned.

86 BTAs cover smaller areas than MTAs, but typically are larger than cellular licensing areas. PCS, Memorandum Opinion and Order, supra note 34, para. 68 (1994). For example, the Boston BTA, one of 14 BTAs in the Boston-Providence MTA, contains about 4.1 million people.

87 See Fifth Report and Order, supra note 35.

88 The FCC accepted 62 applicants for filing for this auction. However, only 32 applicants actually submitted payments upfront. See 62 Applications Are Accepted to Participate in the
MHz licenses. The Commission has designated these licenses as the Block A and Block B licenses. The second auction, scheduled to begin in April, 1995, will be for the 493 Block C licenses reserved for "entrepreneurs"—i.e. small to mid-size businesses, including businesses owned by minorities and women. These licenses will be based on BTAs and will be for 30 MHz of spectrum. The 493 Block F entrepreneurs' licenses for 10 MHz of spectrum, and the 986 10 MHz BTA licenses, for which all parties will be eligible to bid, will be auctioned later in 1995.

The Commission intends to hold simultaneous multiple-round auctions. All licenses in a particular auction will be open for bidding at the same time. In the first auction, for example, a party could bid at the same time on the adjacent New York and Boston-Providence MTAs (or on other groupings of licenses that make strategic sense to the bidder). Regarding the Block A and B auctions, the FCC now is conducting two rounds of bidding each day, continuing for a period of weeks, with bids accepted either on-site or remotely, by telephone or electronic bidding.

To ensure that auctions progress efficiently and that only qualified bidders participate, the Commission adopted a package of bidding rules for the various stages of the auction process. First, prior to the auction, each bidder must file an FCC Form 175 short form application and, shortly afterward, provide an "upfront payment" of two cents per megahertz per unit of population represented by the licenses the bidder will seek in each round of the auction ($0.02/MHz/pop). For example, if the bidder desires the flexibility to bid on three 30 MHz blocks, as discussed below, are entitled to submit upfront pay-

ments of only $0.015 per MHz per pop, a 25% discount. Id. para. 67 n.45.

It may be advisable to pre-qualify for more spectrum than an applicant actually intends to acquire because of eligibility penalties that may arise under the "activity rules" discussed infra.

The FCC reserved discretion to conduct separate simultaneous, multiple-round auctions for the C and F Blocks. See In re Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Memorandum Opinion and Order, PP Dkt. No. 93-252 (Nov. 17, 1994) [hereinafter "Memorandum Opinion and Order"]; On December 23, 1994, the FCC released a public notice announcing that the C Block auctions will begin in April, 1995. FCC Public Notice (Dec. 23, 1994).

Fifth Report and Order, supra note 35, paras. 36-39. In-region cellular entities will be eligible to participate in bidding for Block D and E licenses without eligibility restrictions.

FCC Announces Auction Simulation And Bidding Procedures For December 5th Broadband Auction, Public Notice (Nov. 14, 1994).

Fifth Report and Order, supra note 35, para. 62.

Id. para. 67. Bidders qualifying for the "entrepreneurs' blocks," as discussed below, are entitled to submit upfront pay-

ments of only $0.015 per MHz per pop, a 25% discount. Id. para. 67 n.45.

It may be advisable to pre-qualify for more spectrum than an applicant actually intends to acquire because of eligibility penalties that may arise under the "activity rules" discussed infra.

Fifth Report and Order, supra note 35, para. 45.

Id. para. 52. See also In re Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Fourth Memorandum Opinion and Order, PP Dkt. No. 93-253, para. 8 (Oct. 19, 1994) [hereinafter Fourth Memorandum Opinion and Order].

Id. paras. 21-25.

Id. para. 8. See also Fifth Report and Order, supra note 35, para 50 n.28.

Fifth Report and Order, supra note 35, para. 53.

Id.

Id. para. 53. The 30 MHz MTA auction moved to stage two on December 15, 1994. Id.

Supra note 45, paras. 21-25.
bid. In each case, the penalty for failing to bid actively is a reduction in the amount of spectrum for which the applicant is eligible to bid. However, each bidder has at least one automatic waiver for each stage of the auction that can be submitted in lieu of a bid without penalty. Additionally, if a bidder ends a round with the high bid, it is not required to submit a bid in the next round.

Fourth, in determining the amount to bid, the Commission will specify minimum “bid increments”—the percentage by which a new bid must be increased above the previous round’s high bid. The minimum bid increment for Stage I of each auction will be five percent of the high bid or $0.02/MHz/pop. In Stage II, the minimum increment will be two percent or $0.01/MHz/pop and in Stage III, the minimum increment will be one percent or $0.005/MHz/pop. The Commission may, however, vary these increments before or during the auction. Finally, to end the auction, bidding for all licenses will close when no acceptable bids are received for any license. Bidding for all licenses will close simultaneously for the MTA auction. However, a different rule may be announced for the two BTA auctions, which will involve many more licenses than the MTA auction.

In determining the method of payment, except in the case of the “entrepreneurs’ blocks,” all winning bidders are required to make a twenty percent “down payment” within five business days of winning the auction. The amount of the upfront payment is credited against the down payment. The winner then must file an FCC Form 600 long-form application within ten days after bidding. Once the FCC places the applications on public notice, interested parties may file petitions to deny. The remainder of the bid will be due within ten days after the license is granted.

The FCC imposes bid withdrawal and default payments to ensure that only serious and interested bidders will prevail in the auctions. A bidder who withdraws a high bid during the course of the auction is required to pay the difference between its withdrawn bid and the winning bid. If the winning bid exceeds the withdrawn bid, no penalty is assessed. However, if a winning bid is withdrawn after the close of the auction (or the winning bidder is disqualified or unable to pay), a significant penalty is assessed. Specifically, the defaulting bidder is required to pay 1) the difference between the defaulting bid and the subsequent winning bid (assuming that the subsequent winning bid is lower), and 2) an additional penalty equal to three percent of the lower of the defaulting bid or subsequent winning bid. If the winning bidder defaults within five business days after the close of the auction, the FCC may
offer the license to the next highest bidder—and to other bidders in descending order of their bid amounts—at the final bid level.\textsuperscript{74} The Commission will reauction the license if the default or disqualification occurs more than five business days after the close of the auction.\textsuperscript{75}

2. Regulatory Safeguards

The Commission also adopted a number of regulatory safeguards. Most importantly, bidders are required to disclose their participation in any bidding consortia or joint bidding agreement.\textsuperscript{76} The rules preclude bidders from cooperating with or discussing their bidding strategy with other bidders who are not members of such a consortium or agreement.\textsuperscript{77} All bidding consortia and joint bidding agreements must be disclosed in the FCC Form 175 short-form application, which is filed prior to the auction.\textsuperscript{78} Further, the rules permit bidders to amend this application to reflect the formation of new consortia or changes in ownership so long as these changes do not result in a transfer of control of the applicant and the new partners or parties have not applied to bid for the same licenses.\textsuperscript{79}

However, the FCC does permit non-controlling, attributable investors in an applicant to obtain ownership interests in, or to enter into a consortium with another applicant in the same market.\textsuperscript{80} Such investment is acceptable provided that the entity certifies that it will not communicate with any party concerning the bidding strategies or bids of more than one applicant and provided that the arrangement does not result in a transfer of control.\textsuperscript{81} If members of a bidding consortium are removed prior to or during the auction, the consortium may continue to bid, even if the removal of certain investors results in a change in control of the bidder.\textsuperscript{82} The removed investors, however, are not permitted to bid on any licenses for which the consortium has applied.\textsuperscript{83}

After the close of the auction, winning bidders again must disclose, in detail, the terms of any partnership or consortium agreements to which they are a party.\textsuperscript{84} This disclosure will occur when the winning bidders file the FCC Form 600 application for the license.\textsuperscript{85} In addition, any licenses transferred within three years after the initial license grant will be subject to a requirement that the total consideration received be disclosed to the Commission to permit it to assess whether auctions have realized the true market value of licenses.\textsuperscript{86}

Finally, the FCC recognizes that certain entities may have non-controlling ownership interests in two or more bidders for licenses in the same market. If two or more bidders in which one entity has a common investment acquire licenses in the same market, the non-controlling investor potentially could have interests that are inconsistent with the PCS spectrum aggregation limits. In these situations, the FCC will permit divestiture of non-controlling interests to bring the investors into compliance with the spectrum aggregation limits, within ninety days of the granting of the license.\textsuperscript{87}

3. Construction Deadlines

All 30 MHz broadband PCS licensees are required to construct facilities to provide coverage to one-third of the population in their service area within five years of the license grant and to two-thirds of the population in the service area within ten years.\textsuperscript{88} All 10 MHz PCS licensees generally must provide coverage to one-fourth of the population in their service area within five years.\textsuperscript{89} PCS licensees must file maps and other documentation demonstrating compliance with the construction requirements at the benchmark dates.\textsuperscript{90}

\textsuperscript{74} \textit{Id.} para. 79.
\textsuperscript{75} \textit{Id.} paras. 78-80.
\textsuperscript{76} \textit{Id.} para. 48. Antitrust law imposes additional limitations on cooperative bidding strategies.
\textsuperscript{77} \textit{Id.}
\textsuperscript{78} \textit{Id.}, para. 62.
\textsuperscript{79} \textit{See Fourth Memorandum Opinion and Order, supra note 47, paras. 55-57. See also In re Implementation of Section 309(j) of the Communications Act - Competitive Bidding, Second Memorandum Opinion and Order, PP Dkt. No. 93-253 (Aug. 15, 1994) [hereinafter Second Memorandum Opinion and Order].}
\textsuperscript{80} \textit{See Memorandum Opinion and Order, supra note 39, paras. 11-12.}
\textsuperscript{81} \textit{See Id.}
\textsuperscript{82} \textit{See Fourth Memorandum Opinion and Order, supra note 47, para. 57.}
\textsuperscript{83} \textit{Id.}
\textsuperscript{84} 47 C.F.R. § 1.2107(d).
\textsuperscript{85} \textit{See supra note 67.}
\textsuperscript{86} \textit{See Fifth Report and Order, supra note 35, paras. 88-89.}
\textsuperscript{87} \textit{See Fourth Memorandum Opinion and Order, supra note 47, paras. 53-54.}
\textsuperscript{88} \textit{See PCS Memorandum Opinion and Order, supra note 34.}
\textsuperscript{89} \textit{Id.} para. 156.
\textsuperscript{90} \textit{Id.}
B. Protections for "Designated Entities"

In the legislation authorizing auctions, Congress required the Commission to "ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services." Accordingly, the Commission crafted a package of preferences for these "designated entities" and set aside two spectrum blocks for bids by small- and mid-sized companies. These preferences entitle certain bidders in these blocks to bidding discounts and permit all bidders to have some type of installment payment plan option.

1. Eligibility Issues

The Commission is concerned that bidders in the entrepreneurs' blocks properly qualify for the special protections crafted for those bidders. Thus the Commission adopted strict eligibility tests for the various categories of bidders.

a. Entrepreneurs' Blocks

The rules limit eligibility to bid in Blocks C and F to entities with gross revenues of less than $125 million for each of the last two calendar years and total assets of less than $500 million at the time the applicant files its short form application. Under the Commission's rules, all annual revenues and assets of all "affiliates" generally are counted when making a size determination. However, in determining eligibility for Blocks C and F, the rules generally do not consider the personal net worth of a bidder's attributable investors and affiliates.

b. Small Businesses

The rules provide additional benefits for "small businesses," which include an entity that "together with attributable investors and affiliates, has average annual gross revenues for the three preceding years of not in excess of $40 million." The rules permit small businesses to form consortia for the purpose of bidding on PCS licenses, and building and operating PCS systems. Under the rules, the assets of each small business participating in the consortium are not aggregated. However, each member of the consortium must satisfy the Commission's definition of a "small business."

c. Woman and Minority-Controlled Businesses

The Commission also provides special incentives to encourage businesses owned and operated by women and minorities to participate in providing PCS. These incentives include bidding credits, favorable down payment and bid payment terms, and tax certificates. There are two primary options for structuring women and minority-controlled applicants: 1) the 25% Control Group Option; and 2) the 50.1% Control Group Option. Under the 25% Control Group Option, woman or minority-controlled bid-

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98 Id., para. 53 (to be codified at 47 C.F.R. § 24.720(b)(1)). Small business applicants generally must have a control group satisfying the requirements of the 25% control group option, which is discussed in the following section. Also exempted are certain small, publicly-traded corporations. Id.

99 47 C.F.R. § 24.709(b)(3)); see also Fifth Memorandum Opinion and Order, supra note 94, para. 53.

100 See supra note 99.

101 See Fifth Memorandum Opinion and Order, supra note 94, para. 53.

102 See Fifth Memorandum Opinion and Order, supra note 94, paras. 130-33.

103 See Fifth Memorandum Opinion and Order, supra note 94, paras. 130-33.

104 See id. paras. 135-39; see also In re Implementation of Sections 309(j) of the Communications Act—Competitive Bidding, Fifth Memorandum Opinion and Order, PP Dkt. No. 93-253 (Nov. 23, 1994) [hereinafter Fifth Memorandum Opinion and Order].

105 Fifth Memorandum Opinion and Order, supra note 94, para. 17.

106 Id. The Rules define an "affiliate" as an entity or person who controls or is controlled by the applicant either directly or indirectly. Id. (to be codified at 47 C.F.R. § 24.720(1)). The affiliation and attribution rules are considered more fully in Part II. The Commission has exempted Indian tribes and Alaskan Native Corporations from the affiliate rules, but has created a rebuttable presumption that revenues derived from regulated gambling will be included in determining an applicant's eligibility. See id., paras. 42-44.

107 See id. para. 30. The Commission also has created an exemption to its affiliation rules for affiliates of certain minority investors. See id. paras. 40-41.

108 See supra note 99.
ders must have a control group that holds at least 50.1% of the voting interest and 25% of the equity. Within the control group, 15% of the equity must be held by "qualifying" investors (small businesses, women or minorities). However, the remaining 10% of the equity may be held by "non-qualifying" investors (in the form of stock or options) that are members of the applicant's management team, pre-existing investors of businesses in the control group, or institutional investors. The "qualifying" investors can reduce their equity holdings from 15% to 10% three years after the date the license is granted. Woman and minority-owned applicants selecting the 25% Control Group Option can have non-qualifying passive investors outside the control group that hold up to 25% of the equity and 25% of the voting stock. The assets and revenues of these passive investors are not counted in determining whether the applicant qualifies as an entrepreneur and/or a small business.

Under the 50.1% Control Group Option, woman or minority-controlled bidders must have a control group holding at least 50.1% of the voting interest and 50.1% of the equity. Within the control group, 30% of the equity must be held by "qualifying" investors, but the remaining 20% may be held by certain "non-qualifying investors." The "qualifying" investors can reduce their equity holdings from 30% to 20% three years after the date the license is granted. Woman and minority-controlled applicants selecting the 50.1% Control Group Option may have non-qualifying passive investors outside the control group that hold up to 49.9% of the equity and 25% of the voting stock. The assets and revenues of these passive investors are not counted in determining whether the applicant qualifies as an entrepreneur and/or a small business.

Non-qualifying investors also can acquire certain non-equity interests in a woman or minority-controlled bidder. The Commission permits non-controlling investors to obtain rights of first refusal, supermajority voting rights and other "standard terms" used to protect their investment. The Commission cautioned, however, that these provisions cannot be aggregated or varied in a manner that would trigger a transfer of control of the applicant or force the designated entity to sell its equity or lose control.

d. Rural Telephone Companies

The Commission created special rules that encourage the participation of rural telephone companies in PCS. Under the Commission's rules, a rural telephone company is permitted to "partition" a BTA or MTA license, either with a consortium of rural telephone companies or with another entity. The rules do not permit rural telephone companies to obtain bidding credits, favorable payment terms, or tax certificates, unless the rural telephone company otherwise qualifies for these benefits under the rules.

2. Affiliation Rules

The Commission's rules generally require the assets of all affiliates to be included in small business and entrepreneurs' block eligibility determinations.

\[104\] Id. para. 64.
\[106\] See id. The 15% of the equity may be held in the form of options, provided that the options are exercisable at any time, solely at the holder's discretion, and at a price less than or equal to the current market valuation of the underlying shares. \[108\] See id. If the control group consists of a single entity that was operating and earning revenues for at least two years prior to December 31, 1994, "qualifying" investors will be required to hold only 10% of the applicant's equity from the outset. \[107\] Fifth Memorandum Opinion and Order, supra note 94, para. 66.

\[108\] See id. para. 63.
\[109\] See id. n.59. If two or more companies have formed a joint venture or consortium to bid in the 30 MHz MTA broadband PCS auction, the Commission will treat them as a single entity when such companies invest in the entrepreneurs' block auction.

\[110\] Id., para. 65. The 30% may be held in the form of options, provided that the options are exercisable at any time, solely at the holder's discretion, and at a price less than or equal to the current market valuation of the underlying shares. \[111\] Id. If the control group consists of a single entity that was operating and earning revenues for at least two years prior to December 31, 1994, "qualifying" investors are required to hold only 20% of the applicant's equity. Id. The list of eligible "non-qualifying" control group investors is the same for the 50.1% Control Group Option and the 25% Control Group Option. Id. paras. 64-65.

\[112\] Id. para. 66.
\[113\] Id. para. 65.
\[114\] Id.

\[115\] For example, the Commission will permit certain types of management agreements between non-controlling investors (or others) and entrepreneurs' block applicants. Fifth Memorandum Opinion and Order, supra note 94, paras. 83-85.

\[116\] Id. paras. 80-82.
\[117\] Id.

\[118\] See Fifth Report and Order, supra note 35, para. 50.
\[119\] Id. para. 153.
These rules define an “affiliates” as:

(1) All individuals and entities that directly or indirectly control the applicant, member of its control group, or any other investor having an attributable interest in the applicant; (2) any other entities also controlled by such individual or entity; (3) all entities over which the applicant has direct control or indirect control through an intermediary; and (4) all other entities over which a member of its control group or any other attributable investor has direct or indirect control.199

Thus, in order for a business to be an affiliate of an enterprise or individual, it must have the power to control or be subject to the control of the enterprise or individual, whether directly or indirectly. In the absence of such a power of control, there is no affiliation relationship.

Under the Commission’s rules, affiliation may arise under any number of circumstances in which it is reasonable to infer a power of joint control. For example, spouses, persons with an “identity of interest” through common investments or familial relationship, companies with shared key employees, common management, or common facilities generally are regarded as “affiliates” under the Commission’s rules.201

3. Control Group Rules

In order to qualify as a woman-owned, minority-owned, or small business, the rules require the existence of a “control group” with a specified composition and with specified holdings in the enterprise.202 The rules define a control group as a group of individuals or entities that possesses de jure control and de facto control of an applicant or licensee.203 Under the Commission’s rules, the entity’s charters, bylaws, agreements, and other official documents must provide that: (1) the control group members or the entity unconditionally own 50.1% of the total voting interests in a corporation; (2) they or the entity must receive at least 50.1% of the annual distribution of dividends; and (3) the stock held by the control group must be given full proportional weight vis a vis other outstanding stock (i.e., upon dissolution, the stock must be redeemed at 100% of its value, and the control group stockholders must enjoy full rights to receive proportional dividends, profits, and regular and liquidating distributions).204 Members of the control group are treated as affiliates of the entity.205

4. Bidding Credits

Bidding credits are defined as a discount on the bid price for the spectrum block.206 Within the entrepreneurs’ blocks, “small businesses”—those with less than forty million dollars in gross revenues—will receive ten percent bidding credits.207 Businesses owned by minorities and women will receive fifteen percent bidding credits, and small businesses owned by minorities and women will receive twenty-five percent bidding credits.208 These credits will reduce the amounts due to the Commission—a minority-owned small business, for example, could win at auction with a bid of ten million dollars and be required to pay only $7.5 million for its license.209

5. Installment Payments

Unlike all other winning bidders who are required to pay in cash, entrepreneurs and designated entities are permitted to pay over time.210 Entrepreneurial companies with gross revenues in excess of $75 million will be eligible for ten-year installment payments at an interest rate equal to ten-year treasury notes, plus 3.5%.211 Entrepreneurial companies with gross revenues not exceeding $75 million, or with licenses in BTAs other than the largest fifty markets, will be eligible for ten year installment payments at a rate equal to ten year treasury notes, plus 2.5%, with interest-only payments for the first year.212

Small businesses are eligible for ten-year installment payments at an interest rate equal to ten-year

199 See Fifth Memorandum Opinion and Order, supra note 94, para. 39.
200 See id. paras. 31-45.
201 See id. paras. 58-76 (revising the definition of woman and minority-owned business to be consistent with the definition used in other FCC contexts).
202 Fifth Report and Order, supra note 35, paras. 115, 164. See also Fifth Memorandum Opinion and Order, supra note 94, para. 77.
203 Fifth Memorandum Opinion and Order, supra note 94, para. 77.
204 See id. paras. 78-82.
205 See id. para. 97. For example, a bidder may bid $10 million for a license. If that bidder is entitled to a 25% bidding credit, that bidder would be required to pay only $7.5 million for the license.
206 Id.
207 Id.
208 See id. paras. 97-100.
209 Fifth Memorandum Opinion and Order, supra note 94, para. 101.
210 Id. paras. 101-03. See also Erratum, PP Dkt. No. 93-253, at 2 (June 10, 1995).
211 See supra note 131.
Treasury notes plus 2.5%, with interest-only payments for the first two years. Businesses owned by minorities and women are eligible for ten-year installment payments at an interest rate equal to ten-year Treasury notes, with interest-only payments for the first three years. Small businesses owned by minorities and women are eligible for ten-year installment payments at an interest rate equal to ten-year Treasury notes, with interest-only payments for the first six years.

6. Tax Certificates

Non-controlling investors in minority and woman-owned businesses are entitled to tax certificates to defer capital gains taxes realized on the sale of their interests. Tax certificates also may be issued for post auction transactions to entities that transfer or assign their PCS licenses to woman or minority owned entities. Cellular licensees who divest their cellular holdings to woman and minority-owned companies in order to comply with the Commission’s cellular-PCS cross-ownership interests also are eligible for tax certificates.

The Commission imposes a one-year holding requirement on the transfer or assignment of broadband PCS licenses by woman and minority-owned businesses obtained through the use of tax certificates, unless the transfer is to another qualified woman or minority-owned business. Tax certificates are granted only after the transaction is consummated, but parties prospectively may request a declaratory ruling from the FCC regarding the applicability of tax certificates to a specific transaction.

7. Restrictions

The Commission has adopted several restrictions to ensure that entrepreneurs’ licenses are broadly distributed broadly and that the process is not subject to abuse. First, no single entity may obtain more than ten percent of the available Block C and Block F licenses (ninety-eight licenses). Second, all licenses in the entrepreneurs’ blocks are subject to a five-year holding and limited transfer period. Such licenses must be held for three years before they may be transferred. During the two-year limited transfer period, the entrepreneurs’ block licenses may be transferred to an entity that either holds entrepreneurs’ block license or satisfies the entrepreneurs’ block criteria at the time of transfer. Third, if a bidder qualifying for installment payments transfers its license at any point during the initial license term to a non-qualifying entity, the remaining principal and any accruing interest, as well as the amount gained by the use of a bidding credit, is due immediately.

B. Eligibility of Cellular Companies

One of the FCC’s primary goals in licensing PCS is to maximize the number of viable new wireless providers in each market. As a consequence, the FCC limited the amount of PCS spectrum that any entity can acquire in a single market. In addition, the FCC has established more restrictive limits for incumbent cellular providers who already have 25 MHz of cellular spectrum.

1. Aggregation of PCS Licenses

An entity cannot acquire an attributable interest in more than 40 MHz of PCS spectrum in a single market. This will ensure that each market has at least three different PCS licenses. Attributable interests include general partnership interests, any actual means of working control, an officership or directorship, or five percent or more of the equity (voting stock, non-voting stock, or limited partnership interests). Options with rights of conversion to equity interests and debt interests—including secur-

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133 Fifth Memorandum Opinion and Order, supra note 94, para. 103.
134 Id.
135 Fifth Memorandum Opinion and Order, supra note 94, paras. 101-104.
136 Fifth Report and Order, supra note 35, para. 143. Tax certificates were created to assist woman and minority-owned enterprises in attracting capital by offering their investors favorable tax benefits.
137 Id.
138 Id. para. 147.
139 Id. paras. 146-47.
140 See Fifth Memorandum Opinion and Order, supra note 94, para. 114.
141 47 C.F.R. §24.839(d). Licensees in Blocks C and F also will be prohibited from selling more than 25% of the passive equity (or 49.9% if it uses the 50.1% equity control group model) of the licensee to a single investor if that sale would cause the licensee to exceed the revenue or asset thresholds. Such licensees, however, are permitted to grow beyond the thresholds through equity investments by expanded service, business development, revenue from operations, and other means. Id.
142 Fifth Memorandum Opinion and Order, supra note 94, paras. 119-123.
143 PCS Memorandum Opinion and Order, supra note 34, para. 103.
144 Id.
145 Id. para. 66.
ity interests and convertible debt instruments—are not attributable.\textsuperscript{146}

The Commission uses a multiplier to compute equity interests in PCS licensees, which ensures that interests for attribution purposes correspond with voting control.\textsuperscript{147} For example, if A owns 30\% of B, and B owns 15\% of the PCS licensee, A would have a 4.5\% non-attributable interest in the licensee. If A owns 50\% of B, A would have a 7.5\% attributable interest in the licensee. The Commission also determined that some non-equity interests—including certain joint marketing and management agreements—should be deemed attributable for purposes of applying the 40 MHz PCS spectrum cap.\textsuperscript{148}

2. Cellular-PCS Cross-Ownership

Because cellular providers already have 25 MHz of clear spectrum and a substantial headstart in terms of providing service,\textsuperscript{149} the Commission restricted the amount of PCS spectrum they can acquire in their existing cellular service areas.\textsuperscript{150} As a general rule, an entity that has a twenty percent or other attributable interest in a cellular provider cannot acquire more than 10 MHz of PCS spectrum in a service area with a ten percent or greater population overlap, until January 1, 2000.\textsuperscript{151} After January 1, 2000, parties with attributable in-region cellular interests may acquire an additional 5 MHz of PCS spectrum.\textsuperscript{152}

The twenty percent attribution rule applies cumulatively to all parties with ownership interests in the cellular licensee.\textsuperscript{153} For example, if four partners in a PCS applicant each own five percent of a cellular provider serving over ten percent of the BTA population, the PCS applicant would be deemed to have a twenty percent interest in the cellular licensee and could acquire only 10 MHz of PCS spectrum. Conversely, if the four partners own five percent of four different cellular licensees, each of which serves over ten percent of the BTA population, the PCS bidder would not be limited to only 10 MHz of PCS spectrum. The FCC expects that the cellular-PCS cross-ownership rule will ensure that PCS licensees have a strong incentive to compete against cellular licensees in the same market.\textsuperscript{164}

3. Cellular Divestiture

There are two instances in which cellular licensees will be able to acquire up to 40 MHz of PCS spectrum in their existing service areas on the condition that they divest their overlapping cellular holdings. First, if a party has a controlling interest in a cellular licensee that serves twenty percent or less of the population in the PCS service area, it can acquire 40 MHz of PCS spectrum, provided that it pledges to divest its overlapping cellular holdings within ninety days of the PCS license grant.\textsuperscript{165} Second, if a party has less than a fifty percent voting interest in a cellular licensee, that party may acquire 40 MHz of overlapping PCS spectrum, subject to that same divestiture condition, as long as there is an unaffiliated single holder of an interest of fifty percent or more.\textsuperscript{166} If the cellular licensee fails to certify its compliance with the cellular-PCS cross-ownership rules within ninety days of the PCS license grant, the Commission can cancel the PCS license immediately and retain the payments tendered.\textsuperscript{167} Cellular licensees that divest their holdings to woman or minority owned companies will be entitled to tax certificates.

\textsuperscript{146} Id. paras. 117-22.
\textsuperscript{147} See In re Amendment to the Commission's Rules to Establish New Personal Communications Services in the 2 GHz Band, Further Order on Reconsideration, Gen. Dkt. No. 90-314 (July 22, 1994), para. 3.
\textsuperscript{148} See Implementation of Sections 3(n) and 332 of the Communications Act, Fourth Report and Order, GN Dkt. No. 93-252 (Nov. 18, 1994).
\textsuperscript{149} The 120 MHz of spectrum allocated for licensed PCS service currently is occupied by microwave licensees. PCS licensees will share spectrum with these licensees and eventually many will have to pay to relocate incumbent microwave licensees. Cellular operators, in contrast, have 25 MHz of clear spectrum per operator.
\textsuperscript{150} See PCS Memorandum Opinion and Order, supra note 34, paras. 16, 98, 103.
\textsuperscript{151} Id. paras. 17(f), 99. With the exception of the 20\% ownership benchmark, the attribution rules are the same for the PCS multiple ownership rules and the cellular-PCS cross-ownership rules. The FCC will use a multiplier for purposes of computing ownership interests. As discussed below, the Commission has relaxed the attribution rules for designated entities and will permit post-auction divestitures of cellular interests in certain situations. See id. paras 98-100.
\textsuperscript{152} Id. para. 17(k).
\textsuperscript{153} Id. para. 100.
\textsuperscript{154} See id. para. 113.
\textsuperscript{155} See id. paras. 141-45.
\textsuperscript{165} In re Amendment to the Commission's Rules to Establish New Personal Communications Services, Third Memorandum Opinion and Order, Gen. Dkt. No. 90-314 (Oct. 19, 1994), para. 33.
\textsuperscript{166} PCS Memorandum Opinion and Order, supra note 34, para. 146. If a buyer cannot be secured, the cellular interest can be divested to be an unaffiliated interim trustee for six months. Id.
4. Cellular Attribution Standards for Designated Entities

To encourage small businesses, and woman and minority-owned businesses to participate in PCS, the Commission relaxed the cellular-PCS cross-ownership rules for designated entities. Specifically, designated entities may hold up to a forty percent non-controlling equity interest in a cellular licensee without being subject to the cellular-PCS cross-ownership restrictions. Additionally, any entity that has a non-controlling investment in a woman or minority-controlled PCS licensee can hold up to a forty percent interest in a cellular licensee without having its cellular interests attributed.

IV. CONCLUSION

Auctions are certain to alter the dynamics of the communications industry. Before auctions, an applicants could file a lottery application with a minimal investment of time and expertise. This process had the benefit of expanding access to the FCC's licensing process to a broader segment of the American public. It had the detriment, however, of issuing some extraordinarily valuable FCC licenses to applicants who virtually had no expertise in telecommunications, nor any vision for implementing the service. Under an auction procedure, a substantial amount of effort must be expended at the outset by prospective applicants to determine a vision for the service in question, the market demand for the service, the magnitude of a bid that would be rational for the planned service and the particular applicant's access to capital. As a result, it is likely that an auction environment will discourage most insincere and less financially committed applicants. Even among experienced communications companies, the cost of auctions may alter business plans and provoke the establishment of partnerships or consortia. The official establishment of a dollar value for FCC-regulated spectrum undoubtedly will have a ripple effect on the establishment of overall communications policy even for services, including broadcasting, that will not be subject to license auctions.

158 Id. para. 14.
159 Id.
160 Id. para. 15