2. Creating New Opportunities

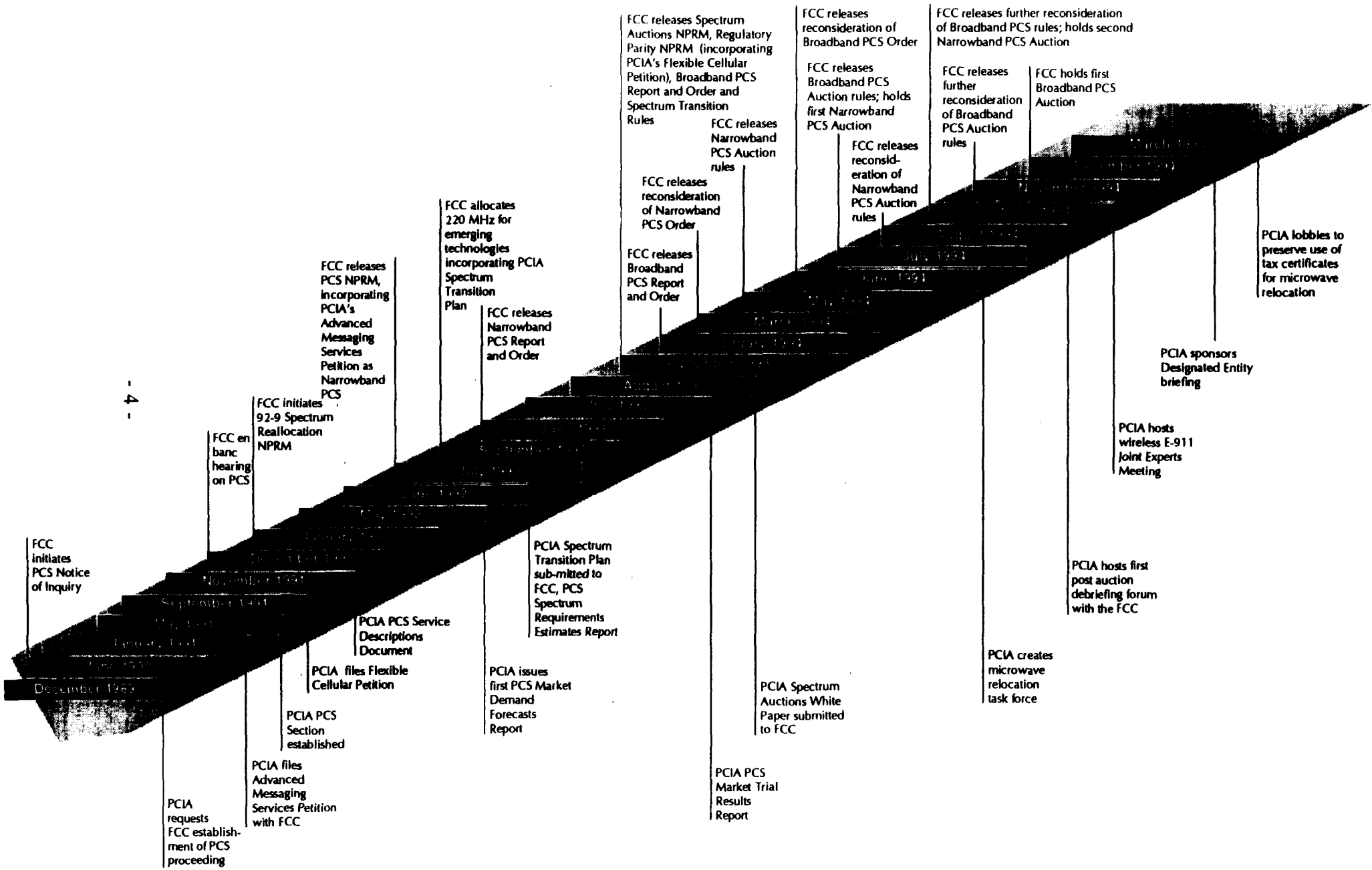
As shown in the time line in Figure 1, in the past several years PCIA has been a leading force in driving policies in all segments of the communications industry. In January of 1991, PCIA filed a petition with the FCC requesting a spectrum allocation in the 900 MHz band for advanced messaging services, or what is now called narrowband PCS. In the following months, PCIA continued to push for expedient action on the proceeding, and the FCC officially allocated two megahertz of spectrum in three bands in the 900 MHz region -- 901-902 MHz, 930-931 MHz and 940-941 MHz -- to narrowband PCS in June 1993.

The availability of additional spectrum, the first of which was auctioned in July 1994, will open up a host of new opportunities for paging companies and new entrants. This spectrum will allow them to offer a greater array of personalized services to consumers in the future, including two-way data communications, acknowledgement paging and a host of other new communications applications.

3. The Voice for PCS

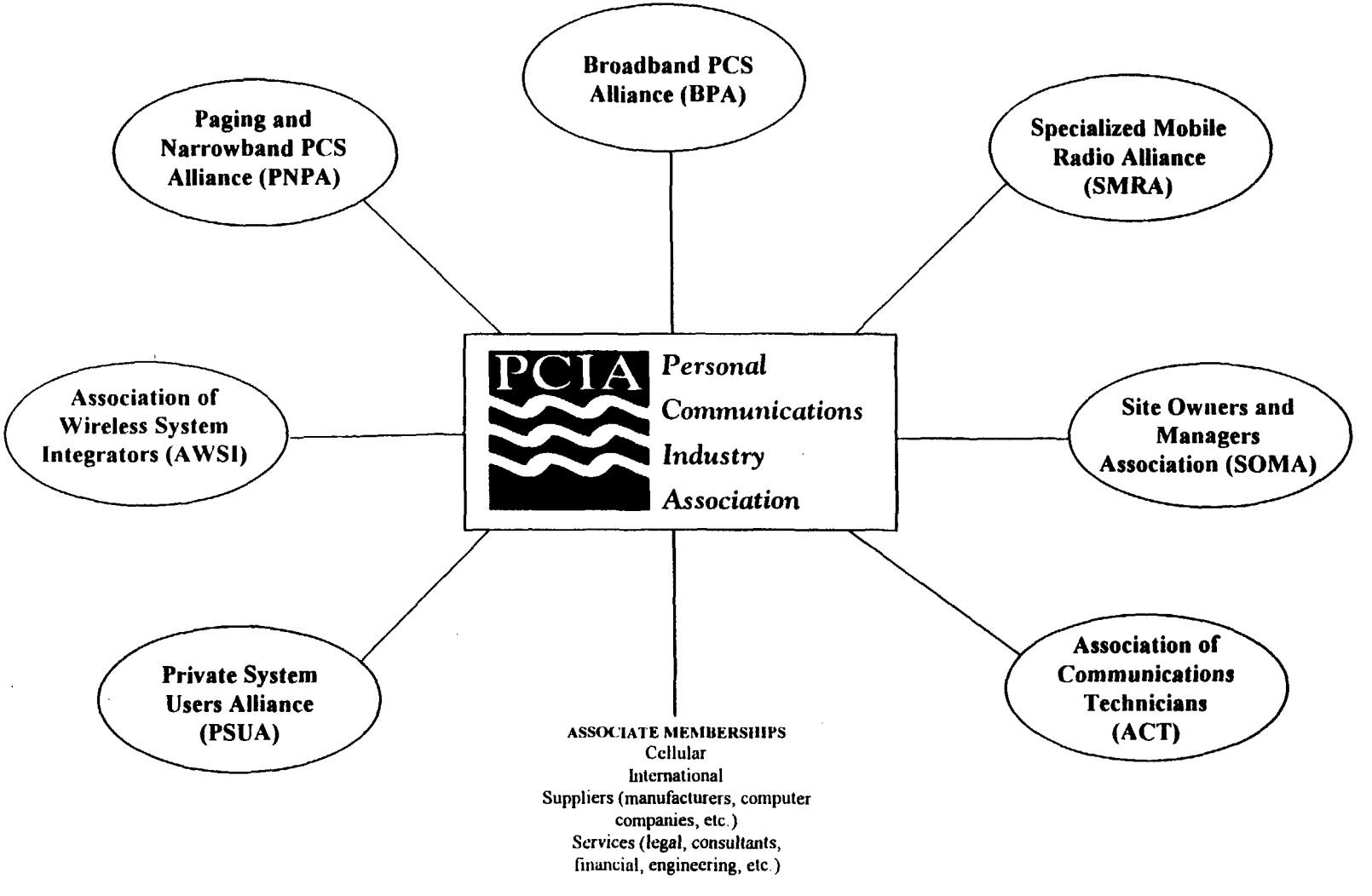
As shown in Figure 2, PCIA's membership includes PCS licensees and companies in the paging, cellular, specialized mobile radio, cable, manufacturing, computer, mobile data and the local and interexchange sectors of the industry. For more information about PCIA membership, committees, publications, meetings and services, contact PCIA's Member Relations department at 1-800/326-8638.

PCIA PCS/Paging/Cellular Activities Timetable



PCIA's Broad, Powerful Membership Base

A Federation of Alliances



4. Point of Contact

In the event you wish to obtain more information about PCIA, the services described above, or any other activities of the association, please contact:

Personal Communications Industry Association
1019 19th Street, N.W.
Suite 1100
Washington, D.C. 20036
(202) 467-4770

PCIA will be pleased to respond to your requests.

C. Structure and Contents of Handbook

The PCIA *900 MHz Narrowband PCS Regulatory Handbook* is divided into sections dealing, respectively, with narrowband PCS market structure, competitive bidding, technical regulations, operational requirements, and point-to-point microwave usage. The sections are structured as follows:

- Part II of this handbook provides a general overview of the market structure adopted for narrowband PCS, including spectrum allocations, license areas, and ownership limitations.

- Part III discusses the competitive bidding, or auction, rules used to select applicants in the narrowband PCS service, with specific discussions of special benefits provided for classes of designated entities, how to qualify as a designated entity, and bidding collusion rules.

- Part IV addresses the technical requirements for narrowband PCS systems, such as the emissions and power limitations on such systems, coordination between adjacent market licensees, coordination with Canadian and Mexican radio systems, type acceptance of radio equipment, PCS numbering, and 911 and E-911 requirements.

- Part V reviews the operational requirements imposed on narrowband PCS licensees, including: the extent of state and federal authority over commercial mobile radio service providers; Title II, or common carrier, obligations; transfer of control and license assignment requirements; environmental impact, zoning, and FAA considerations; privacy rights of subscribers and obligations to assist law enforcement; roaming and resale issues; and other considerations.

- Finally, Section VI discusses the licensing and use of point-to-point microwave systems used that will be used by many carriers to backhaul and distribute traffic within a narrowband PCS network.

The handbook also contains a number of appendices relevant to narrowband PCS and wireless regulation generally.

II. 900 MHz NARROWBAND PCS ALLOCATIONS AND MARKET STRUCTURE

A. The Definition of Narrowband PCS

The personal communications services allocations for narrowband systems in the 900 MHz band will permit deployment of a wide range of "next generation" paging systems. By allowing carriers to obtain up to 300 kHz of spectrum, the Commission intended to foster a diverse variety of technical system designs. To date, proposals have included acknowledgement paging and two-way data messaging, as well as voice paging. As discussed below, the technical rules and the geographic licensing regions for the service are based on trends evident in the use of the paging bands adjacent to the 930-931 MHz narrowband PCS allocation.

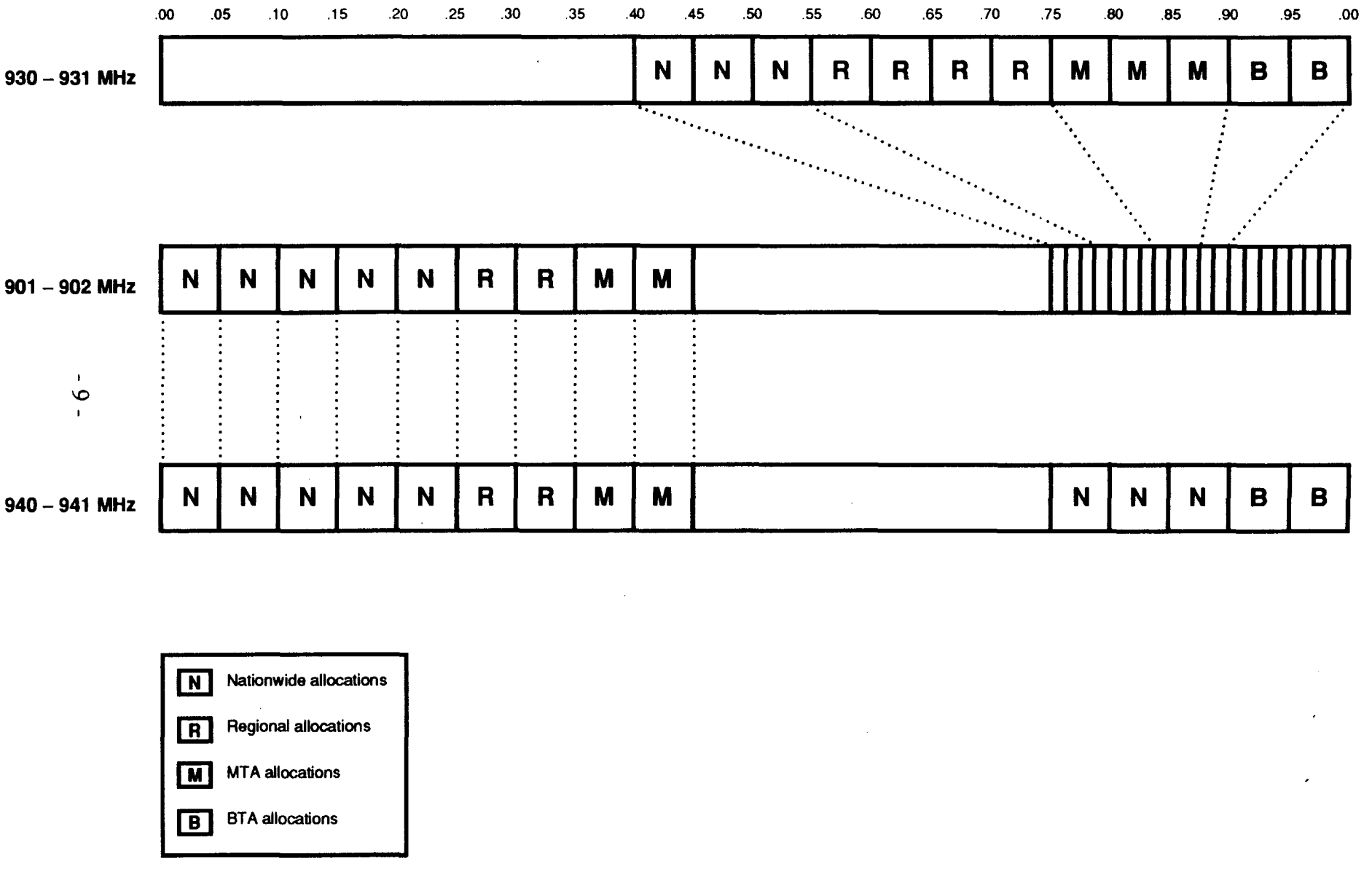
B. Spectrum Allocations

The FCC has allocated approximately two MHz of spectrum for 900 MHz narrowband PCS. This spectrum is located throughout the 901-902 MHz, 930-931 MHz, and 940-941 MHz bands, and is channelized into pairs of 50 kHz channels, 50 kHz channels paired with 12.5 kHz channels, unpaired 50 kHz channels, and unpaired 12.5 kHz channels for use with existing one-way messaging systems.[1] As shown in Table 1, these channels have been allocated for use on a national, regional, MTA, and BTA basis. Figure 3 shows the relationship between the various allocations.

TABLE 1: NARROWBAND PCS CHANNEL SUMMARY		
Channel Type	No. Available	License Area
50 kHz/50 kHz	5	Nationwide
50 kHz/12.5 kHz	3	Nationwide
50 kHz unpaired	3	Nationwide
50 kHz/50 kHz	2	Regional
50 kHz/12.5 kHz	4	Regional
50 kHz/50 kHz	2	MTA
50 kHz/12.5 kHz	3	MTA
50 kHz unpaired	2	MTA
50 kHz/12.5 kHz	2	BTA

[1] Although the 12.5 kHz "talk-back" channels for use with existing systems were allocated in the narrowband PCS proceeding and the rules for use of these channels are located in Part 24 of the Commission's rules, these channels are not designated as "narrowband PCS licenses."

900 MHz Narrowband PCS Allocations



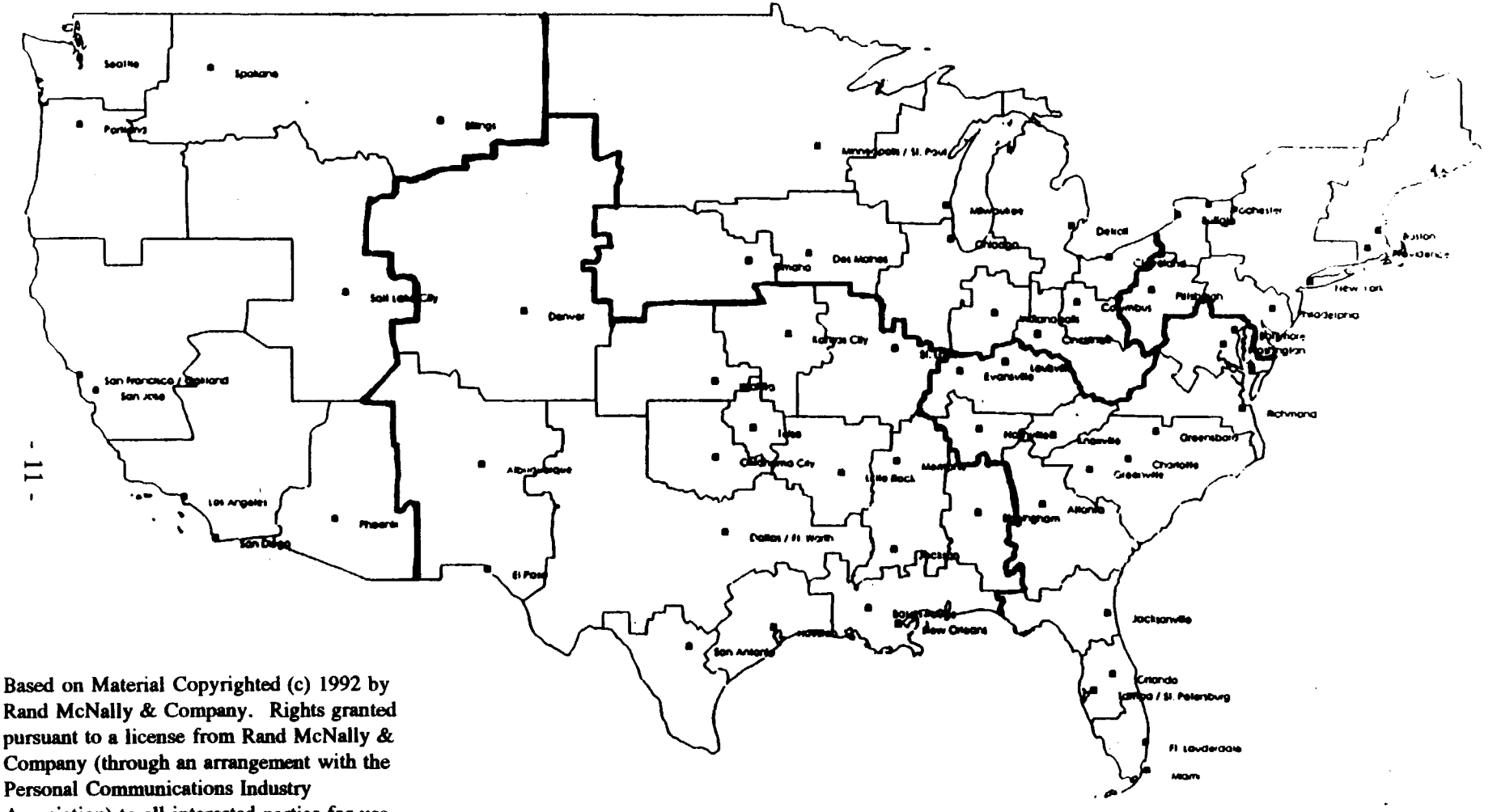
C. Service Areas

As noted, the FCC has elected to license 900 MHz narrowband PCS spectrum on a national, regional, MTA, and BTA basis. The national allocations include the entire continental United States, Hawaii, Puerto Rico, Alaska, and the island territories. The MTA regions are the same regions used for broadband PCS licensing (*see* Figure 4). The BTA regions are described in the *Commercial Atlas & Marketing Guide* available from Rand McNally. The 900 MHz narrowband PCS regional licenses divide the United States into five territories comprised of collections of MTAs. The regions are shown in Figure 4 and defined as:

TABLE 2: 900 MHz NARROWBAND PCS REGIONAL LICENSES BY MTA

Region	Name	MTAs Included
1	Northeast	Boston-Providence; Buffalo-Rochester; New York; Philadelphia; and Pittsburgh.
2	South	Atlanta; Charlotte-Greensboro-Greenville-Raleigh; Jacksonville; Knoxville; Louisville-Lexington-Evansville; Nashville; Miami-Fort Lauderdale; Richmond-Norfolk; Tampa-St. Petersburg-Orlando; Washington-Baltimore; Puerto Rico; and the U.S. Virgin Islands.
3	Midwest	Chicago; Cincinnati-Dayton; Cleveland; Columbus; Des Moines-Quad Cities; Detroit; Indianapolis; Milwaukee; Minneapolis-St. Paul; and Omaha.
4	Central	Birmingham; Dallas-Ft. Worth; Denver; El Paso-Albuquerque; Houston; Kansas City; Little Rock; Memphis-Jackson; New Orleans-Baton Rouge; Oklahoma City; San Antonio; St. Louis; Tulsa; and Wichita.
5	West	Honolulu; Los Angeles-San Diego; Phoenix; Portland; Salt Lake City; San Francisco-Oakland-San Jose; Seattle (including Alaska); Spokane-Billings; American Samoa; Guam; and the Northern Mariana Islands.

MTA AND REGIONAL LICENSE TERRITORIES



Based on Material Copyrighted (c) 1992 by Rand McNally & Company. Rights granted pursuant to a license from Rand McNally & Company (through an arrangement with the Personal Communications Industry Association) to all interested parties for use solely in connection with the licensing, building, marketing and operation of personal communications services, certain specialized mobile radio services and local multipoint distribution services.

D. Restrictions on Ownership/Eligibility

1. The Three License Cap

Narrowband PCS licensees may aggregate up to three narrowband licenses in any geographic area. A narrowband PCS licensee is any person or entity with an ownership interest of 5 percent or more in an entity holding a narrowband PCS license.[2] For purposes of this rule, the Commission uses an "ownership multiplier" where intermediate, non-controlling, non-majority entities are involved in the ownership chain. In such cases, the ownership interest for purposes of attribution is derived by multiplying the intermediate ownership interests together. Thus, for example, if Party X owns a 25 percent non-controlling interest in Corporation Y that holds a 10 percent non-controlling interest in Licensee Z, Party X is deemed to have a 2.5 percent interest (*i.e.*, 0.25 x 0.10) in Licensee Z. On the other hand, if Corporation Y's interest in Licensee Z is a majority interest (over 50 percent) or controlling by other criteria, no multiplier is used and Party X would be deemed to have a 25 percent interest in Licensee Z.

This three license limit does not include "existing" paging spectrum, nor does it include the 12.5 kHz response channels reserved for the upgrade of existing paging systems. The narrowband PCS spectrum limits are not a cap on the total amount of spectrum, as in broadband PCS, but rather a cap on licenses. Thus, while one licensee may be at the limit

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[2] Under some limited circumstances, insulated limited partners may acquire up to a 10 percent interest that is not attributable. *See* Amendment of the Commission's Rules To Establish New Personal Communications Services, GEN Docket No. 90-314, FCC 95-92 (Mar. 3, 1995).

with three single 50 kHz licenses (150 kHz total), a licensee with two 50 kHz channel pairs (200 kHz) could acquire another 50 kHz channel pair (300 kHz total).

Finally, licensees should be aware that post-auction divestiture may be permitted in some circumstances to ensure compliance with the license cap. In cases where common, non-controlling ownership exists between two or more bidders and those bidders collectively win more licenses than a single entity is permitted to hold, the FCC will permit the divestiture of non-controlling interests to bring the entities into compliance with the license cap. Such post-auction divestiture must be completed within 90 days of license grant.

2. Eligibility for 12.5 kHz Talk-Back Channels

Eligibility for the 12.5 kHz talk-back channels is limited to existing paging licensees operating in a particular market. An "existing" paging licensee, for this purpose, is defined as a paging licensee authorized under Part 22 or Part 90 of the Commission's rules as of the date the application for a talk-back channel is filed. Because narrowband PCS licensees are not authorized under either Part 22 or Part 90, narrowband PCS licensees are not eligible to apply for response channels unless they also provide other paging services.

An existing paging licensee is eligible to apply in any market, as long as it operates at least one base station that has a service contour overlapping some part of the response channel market. For purposes of this rule, the service area of a paging station is assumed to be 20 miles, except for certain high power stations. In particular, "F", "G", "H", and "K"

class paging stations are assumed to have a service area radius as defined in Section 22.504(b)(2) of the Commission's rules.[3]

The paging response channels are limited to mobile-to-base transmissions and may be used only in a paired manner with existing paging channels to provide mobile-to-base station communications. Existing paging licensees are limited to two paging response channels in any given geographic area for a period of two years after initial license grant. After that period expires, licensees may acquire any number of response channels in a market. This will allow an opportunity for existing paging licensees to upgrade their operations to provide acknowledgement and messaging capability.

3. Non-U.S. Ownership Restrictions

The restrictions on nondomestic ownership of narrowband PCS licenses are the same as those listed under Section 310 of the Communications Act for broadcasters, common carriers, and certain aeronautical licensees.[4] Specifically, no narrowband PCS license may be granted to or held by: (1) any alien or the representative of any alien, or (2) any corporation organized under the laws of any foreign government. In addition to these bans on direct licensing of nondomestic entities, there are limitations on license grants to entities in which non-U.S. citizens have an ownership interest or exert control. Thus, no

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[3] At the time the rule was adopted, the Part 22 Rewrite was not yet in effect. Under the new Part 22 rules, there is no Section 504(b)(2) and the rules no longer classify stations into letter designations. Accordingly, applicants concerned about response channel eligibility should refer to versions of the Part 22 rules dated prior to the effective date of the Part 22 Rewrite, or January 1, 1995.

[4] If a narrowband PCS licensee were able to overcome the presumption of offering CMRS, the restrictions on nondomestic ownership would be more limited and the license simply could not be granted to or held by a foreign government or a representative thereof.

narrowband PCS license may be granted to or held by: (1) an entity that has any alien officer or director, or (2) an entity in which more than 20 percent of the equity is owned or voted by aliens, their representatives, a foreign government or representatives thereof, or by any corporation organized under the laws of a foreign country. These restrictions, imposed by Section 310(b)(3) of the Communications Act, are absolute and may not be waived by the FCC.

The restrictions on licenses also extend to ownership or positional interests of aliens in entities that directly or indirectly control a PCS licensee. "[I]f the Commission finds that the public interest will be served by the refusal or revocation of such license," parent companies that directly or indirectly control a licensee are barred from having:

(1) an alien officer;

(2) a board of directors in which alien membership exceeds 25 percent; or,

(3) more than 25 percent of the capital stock (or equity interest) owned of record or voted by aliens, their representatives, a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country.

Section 310(b)(4) is more flexible than Section 310(b)(3) in allowing the FCC to make a public interest determination, on a case-by-case basis, that the public interest would not be harmed by ownership interests in excess of these limits. Section 310(b)(3)-(4) restrictions also apply to partnerships, as tailored to accommodate differences in the respective rights and obligations of partners and corporate shareholders.

III. 900 MHz NARROWBAND PCS LICENSING RULES AND PROCEDURES

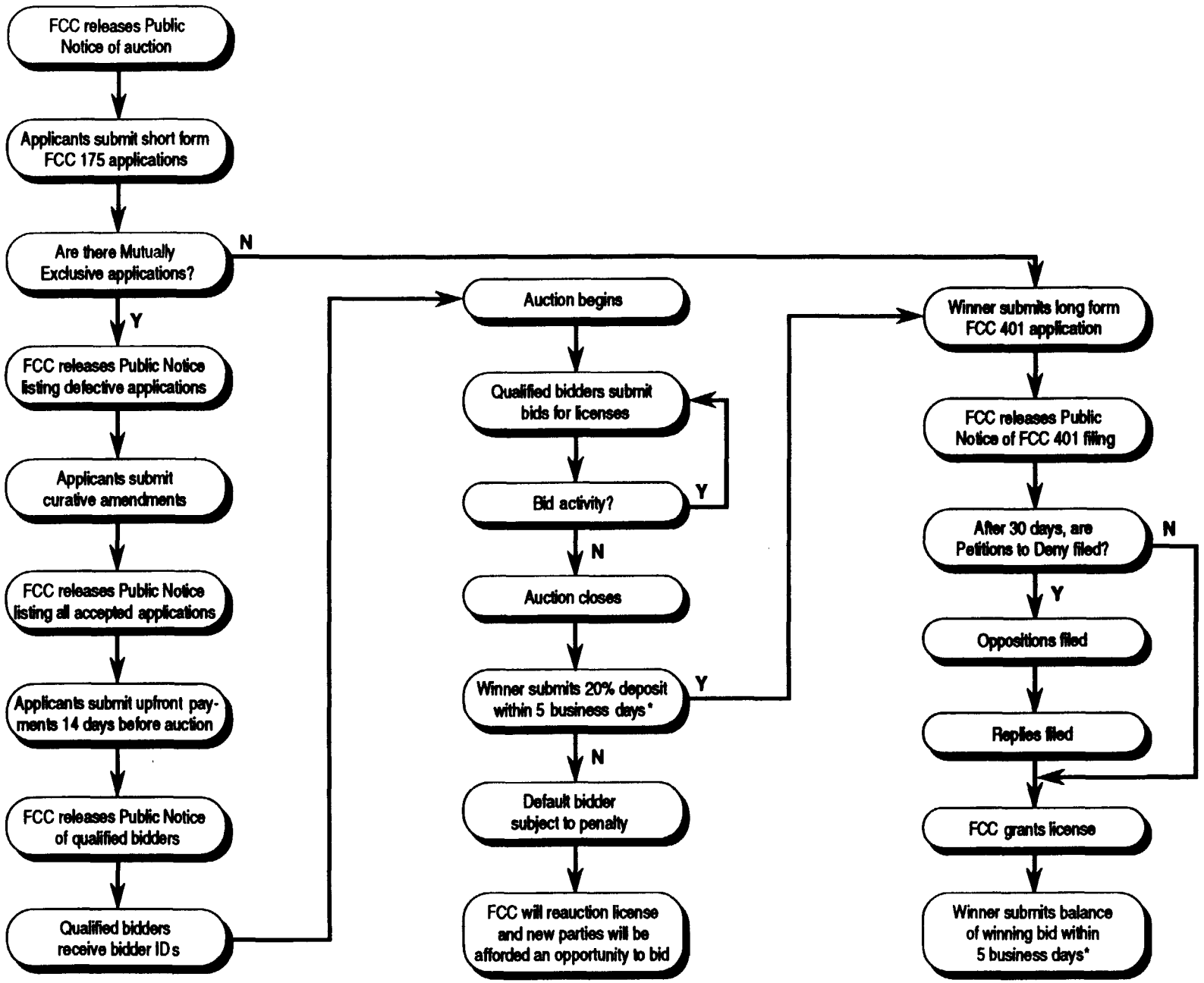
The FCC has determined that it will use competitive bidding, or auctions, to select from among initial applicants for narrowband PCS authorizations. The following sections discuss the regulations and procedures governing the auctioning of licenses (the auction process is summarized in the flow chart labelled Figure 5), rules to prevent collusion among bidders, and specific preferences available to defined classes of "designated entities." At the time of publication, the FCC has already conducted auctions for the nationwide and regional narrowband PCS licenses. Auctions for the remaining MTA and BTA licenses are expected in early 1995.

A. Pre-Auction Application Procedures

1. Initial FCC Public Notice

The FCC will release an initial public notice announcing that it will accept applications for specific narrowband PCS licenses. This notice will specify the following five important elements: (1) the licenses to be auctioned; (2) the time and place of an auction, should mutually exclusive applications be filed; (3) the method of competitive bidding to be used, including applicable bid submission procedures and auction rules; (4) the filing deadline for short form applications; and (5) the amounts and deadlines for submitting the upfront payment. Soon after the filing of the initial public notice, the FCC will provide prospective bidders with an auction information package.

Overview Of Narrowband PCS Bidding Procedures



* Different rules apply to auction winners that are eligible for installment payments (5% of winning bid due within 5 business days after auction close with an additional 5% due after license grant)

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2. Filing Short Form Applications

All bidders will be required to submit short form applications on FCC Form 175 (and FCC Form 175-S, if applicable), together with any applicable filing fee, by the date specified in the initial public notice. The short form application requires that a bidder specify certain identifying and ownership information and disclose all bidding agreements.[5] Once the short form application has been filed, no change in control of the applicant is permitted. Any changes in the applicant's ownership of a non-controlling nature must be reported to the Commission within two days by the filing of a minor amendment to the short form.

In the FCC Form 175, the applicant must specify its status as a designated entity, if applicable; its classification (*i.e.*, individual, corporation, partnership, trust, or other); the markets and frequency blocks for which it is applying; and the name of persons authorized to place or withdraw a bid. Applicants must also provide detailed ownership information and identify all parties with whom they have entered into any consortium arrangements, joint ventures, partnerships, or other agreements or understandings that relate to the competitive bidding process. Such agreements, and the anti-collusion rules, are discussed in Section III(D), and include, *inter alia*, agreements with any entities sharing common ownership with the applicant such as parent, sister, or subsidiary corporations, even if wholly-owned. Furthermore, applicants must certify that they have not entered and will not enter into any explicit or implicit agreements, arrangements, or understandings with any parties, other than

[5] As noted in Section III(B)(2), the FCC has relaxed this requirement in certain cases where two bidders have filed FCC Form 175 applications that do not propose to bid in any of the same markets.

those identified, regarding the amount of their bid, bidding strategies, or the particular properties on which they will or will not bid.[6]

3. Second and Third FCC Public Notices

After reviewing the short form applications, the FCC will issue a second public notice listing all defective applications, and applicants whose applications contain minor defects will be given an opportunity to cure their applications by submitting a corrected version. After reviewing the corrected applications, the FCC will release a third public notice announcing the names of all applicants whose applications have been accepted for filing. These applicants will be required to submit an upfront payment to the FCC in order to participate in the auction.

4. Upfront Payment

The upfront payment will be based on a standard payment formula of $0.02 per MHz/POP for the largest combination of MHz/POPs a bidder anticipates bidding on in any single round of bidding for narrowband PCS. In addition, the FCC established a minimum upfront payment of $1,000 for 900 MHz narrowband PCS applications. In the initial public notice, the FCC will announce population information corresponding to each license to enable bidders to calculate their upfront payments. Although the FCC will specify a final deadline for submission of the upfront payment before each auction, applicants generally will be required to remit the full amount of their upfront payment to the FCC lock-box bank no

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[6] The FCC has created limited exceptions to this rule that will, in defined circumstances, permit applicants to enter into agreements after filing the FCC Form 175. *See* Section III(B)(2).

later than 14 days before the scheduled auction. Payment must be made by wire transfer or by cashier's check drawn in U.S. dollars from a financial institution whose deposits are insured by the Federal Deposit Insurance Corporation and must be payable to the Federal Communications Commission.

5. Fourth Public Notice

After receipt of timely upfront payments, the FCC will issue a fourth public notice announcing the names of all applicants who are qualified to bid. The FCC will provide each qualified bidder with further instructions and information regarding the auctions. Additionally, the FCC will issue each bidder a "bidder identification number" to be used when submitting auction bids.[7]

B. Conduct of the Narrowband Auctions

In order to conduct the narrowband auctions effectively, the FCC has combined interrelated licenses into five groups as follows:

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[7] The FCC retained the discretion to determine on an auction-by-auction basis whether or not to release bidder identities during the course of an auction. *See* Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 75 Rad. Reg. 2d (P & F) 1211, 1218 (1994) ["*Third MO&O*"].

TABLE 3: NARROWBAND PCS CHANNEL AUCTION SUMMARY			
Group	Service Area	Channel Sizes	Number to be Auctioned
1	Nationwide	50/50 kHz paired 50/12.5 kHz paired 50 kHz unpaired	10
2	Regional	50/50 kHz paired 50/12.5 kHz paired	30
3	Major Trading Area (MTA)	50/50 kHz paired 50/12.5 kHz paired 50 kHz unpaired	357
4	Basic Trading Area (BTA)	50/12.5 kHz paired	984
5	MTA/BTA Response Channels	12.5 kHz unpaired	2,172

The FCC will conduct a separate simultaneous multiple round auction for each of the first four license groups. While the FCC is likely to use the same procedures for the fifth license group, it has retained the discretion to use single round sealed bidding for the response channels. The Group 1 licenses were auctioned in July, 1994, and the Group 2 licenses were auctioned in October, 1994.

The FCC has developed identical procedures for each of the simultaneous multiple round auctions, while retaining discretion to modify the auction procedures based upon experience it may gain in the earlier auctions. As discussed in more detail below, in each auction, the FCC will accept bids on all of the licenses in the group up for bid, and bidders will submit their bids through multiple rounds of bidding. The FCC will conduct the auction in three stages, with the auction beginning in stage I and proceeding to subsequent stages as bidding activity decreases. After declaring their maximum bidding eligibility through an upfront payment, bidders will be required to comply with established minimum bid

increments and bidding activity for each auction stage in order to retain their bidding eligibility in subsequent rounds. Under a simultaneous stopping rule, the auction will remain open until there are no new acceptable bids on any license. In addition, penalties may apply to high bids withdrawn either before or after the close of bidding.

1. Bidding Rounds

The FCC reserves the right to vary the duration of bidding rounds or the interval at which bids are accepted in order to move the auction toward closure more quickly. The FCC will indicate either by public notice, prior to an auction, or by announcement during an auction, any changes to the duration of and intervals between bidding rounds. For the nationwide and regional narrowband PCS auctions, for example, the Commission held one hour bidding rounds.

2. Auction Stages

The FCC generally will divide each narrowband PCS auction into three separate stages to ensure that the auction will proceed at an appropriate pace. The stage classification is significant because it determines a bidder's required activity level and the corresponding penalty imposed upon a bidder that falls below the required activity level.[8] The FCC will begin the auction in stage I and proceed to a subsequent stage when the bidding activity is

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[8] If a market-by-market stopping rule is used for the 50/12.5 kHz paired BTA licenses, the FCC will not use auction stages. *See* Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 9 FCC Rcd 2941, 2956 (1994).

confined to a limited percentage of the total spectrum available for auction (measured in terms of MHz/POPs).

The FCC will advance the auction into a subsequent stage according to the following criteria:

- The auction will proceed from stage I to stage II when, in each of three consecutive rounds of stage I, the high bid has increased on 5 percent or less of the spectrum being auctioned.
- The auction will proceed from stage II to stage III when, in each of three consecutive rounds of stage II, the high bid has increased on 2 percent or less of the spectrum being auctioned.

Furthermore, the FCC retained the discretion to indicate either by public notice, prior to an auction, or by announcement during an auction, an increase or decrease in the activity levels at which the auction moves from one stage to the next based upon various measures of bidder activity.

3. Minimum Bid Increments

In a multiple round auction, the minimum bid increment is the amount or percentage by which a bid must be raised above the previous round's high bid in order to be accepted as a valid bid in the current bidding round. For the narrowband auctions where multiple round bidding is used, the FCC has imposed a minimum bid increment of 5 percent of the high bid from the previous round or $0.01 per MHz/POP, whichever is greater. Furthermore, the FCC retained the discretion to set and, by announcement before or during the auction, vary the minimum bid increments for individual licenses over the course of an auction. For

example, the minimum bid increment may be reduced in later bidding rounds as bidding comes to a close.

In addition to a minimum bid increment, the FCC may establish a suggested minimum opening bid on each license of no less than $0.03 per MHz/POP and no more than $0.20 per MHz/POP. The FCC will announce by public notice the amount of any suggested minimum opening bid.

4. Activity Rules

An activity rule requires that bidders remain active on a certain percentage of their total eligibility throughout each bidding round.[9] A bidder is considered active on a license in the current round if the bidder has submitted an acceptable bid for that license in the current round, or has the high bid for that license from the previous round.

A bidder will be able to secure the option to participate at whatever level it deems appropriate, although it must establish its initial bidding eligibility by submitting its upfront payment. In each round, a bidder is limited to bidding on licenses encompassing no more than the number of MHz/POPs covered by its upfront payment. Licenses on which a bidder is the high bidder from the previous round count against this bidding limit. However, bidders will have flexibility to shift their bids among licenses for which they have applied as long as, within each round, the total MHz/POPs encompassed by those licenses do not exceed an applicant's maximum eligibility.

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[9] The FCC will not use an activity rule if it elects to use a market-by-market stopping rule in the 50/12.5 kHz paired BTA license auction. If a simultaneous stopping rule is used for these licenses, a simpler activity rule may be selected. *See id.*

The penalty for falling below the minimum required activity level is a reduction in eligibility to bid in the subsequent round. Subject to its discretion, the FCC has adopted the following activity rules and penalties:

TABLE 4: REQUIRED NARROWBAND PCS AUCTION ACTIVITY LEVELS		
Stage	Minimum Activity Level	Penalty
I	A bidder must remain active on 1/3 of the MHz/POPs for which it is eligible	3.0 MHz/POPs for each 1 MHz/POP below the required minimum activity level
II	A bidder must remain active on 2/3 of the MHz/POPs for which it is eligible	1.5 MHz/POP for each 1 MHz/POP below the required minimum activity level
III	A bidder must remain active on **all** of the MHz/POPs for which it is eligible[10]	1.0 MHz/POP for each 1 MHz/POP below the required minimum activity level

The FCC will permit bidders one automatic waiver from the activity rule during each stage of an auction, or one automatic waiver during a number of bidding rounds specified by public notice. Furthermore, by public notice prior to a specific narrowband auction, the FCC may change the number of waivers that will be permitted and the frequency with which they may be exercised. A waiver will permit a bidder to maintain its eligibility at the same level as in the round for which the waiver is submitted. A waiver cannot be used to correct an error in the amount of a bid. A bidder may submit a waiver either in the round in which its bidding falls below the minimum required activity level in that round, or prior to

[10] The FCC is considering whether it should reduce the activity level slightly in stage III, but has indicated that the activity level would not be reduced below 90 percent. The FCC will announce the required activity levels for stage III in the narrowband PCS auctions in a public notice released in advance of each auction. *See Third MO&O*, 75 Rad. Reg. 2d (P & F) at 1217.

submitting a bid in the next round. If a waiver is entered in a round in which no other bidding activity occurs, the auction will remain open. However, a waiver entered after a round in which no other bidding activity occurs will not reopen the auction.

5. Stopping Rules

The FCC has adopted a simultaneous stopping rule for all the nationwide, regional, and MTA licenses, whereby bidding remains open on all licenses until there is no new acceptable bid on any license. However, because of the large number of BTA licenses and their low expected value, the FCC has indicated that it may either use a hybrid stopping rule or allow markets to close individually in auctions for these licenses. Under a market-by-market approach, bidding closes on each license after one round passes in which no new acceptable bids are submitted for that particular license. A hybrid stopping rule combines a simultaneous stopping rule along with an activity rule for relatively higher value licenses with a market-by-market stopping rule for the relatively lower value licenses. Additionally, the FCC retained the discretion to declare in a multiple round auction that the auction will end after one additional round (or some specified number of additional rounds). If the FCC uses this procedure, it will accept bids in the final rounds only for licenses on which the highest bid increased in at least one of the preceding three rounds.

6. Penalty for Withdrawn High Bids

Any bidder that withdraws a high bid during an auction before the FCC declares bidding closed may be subject to withdrawal penalties. If the bid is superceded by another bidder, no penalty will be applied. If the auction draws to a close without a higher bid than the withdrawn bid, the withdrawing bidder will be required to reimburse the FCC the amount of the difference between its bid and the amount of the winning bid. If no other qualifying bids are tendered and the auction draws to a close, the withdrawing bidder will be required to reimburse the FCC the difference between its bid and the winning bid the next time the license is offered by the FCC, if the subsequent winning bid is lower.

C. Post Auction Payments and Procedures

1. Down Payment

With the exception of certain designated entities eligible for installment payments, winning bidders will be required to supplement their upfront payments with a down payment sufficient to bring their total deposit up to 20 percent of the winning bid.[11] This down payment must be submitted to the FCC's lock-box bank by cashier's check or wire transfer by a date specified by public notice, generally within five business days following the close of bidding.

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[11] An auction winner that is eligible for installment payments will be required to bring its deposits with the Commission up to only 10 percent of its winning bid, with an additional 10 percent of the winning bid due after the license is granted. *See* Section III(E)(4)(b) for a discussion of installment payments.