§ 420.215 Procedure for withdrawal of approval.

(a) If a State is not complying with the requirements of this subpart, or is not performing in accordance with its RD&T management process, the FHWA Division Administrator shall issue a written notice of proposed determination of noncompliance to the State. The notice shall set forth the reasons for the proposed determination and inform the State that it may reply in writing within 30 calendar days from the date of the notice. The State's reply should address the deficiencies cited in the notice and provide documentation as necessary.

(b) If the State and Division Administrator cannot resolve the differences set forth in the determination of nonconformity, the State may appeal to the Federal Highway Administrator.

(c) The Federal Highway Administrator's action shall constitute the final decision of the FHWA.

(d) An adverse decision shall result in immediate withdrawal of approval of FHWA planning and research funds for the State's RD&T activities until the State is in full compliance.

PART 511—RESEARCH AND DEVELOPMENT (R&D) STUDIES AND PROGRAMS; GENERAL [REMOVED]

3. Chapter I of title 23, CFR, is amended by removing and reserving part 511.

[FR Doc. 94–17908 Filed 7–21–94; 8:45 am]
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Federal Register

Friday
July 22, 1994

Part IV

Federal Communications Commission

47 CFR Part 24
Competitive Bidding; Final Rule

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 24

[PP Docket No. 93-253, FCC 94-178]

Implementation of Section 309(j) of the Communications Act—Competitive Bidding

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this *Fifth Report and Order*, the Commission adopts rules governing competitive bidding to award initial licenses in the Personal Communications Services in the 2 GHz band (broadband PCS"). This action is taken to implement Section 309(j) of the Communications Act of 1934, as amended. The new rules will promote the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas. These rules also will promote economic opportunity and competition, and disseminate licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. This action will result in recovery for the public of a portion of the value of the public spectrum made available for commercial use.

EFFECTIVE DATE: August 22, 1994.

FOR FURTHER INFORMATION CONTACT: Sara Seidman, Office of General Counsel, (202) 418–1700, or Jonathan Cohen, Office of Plans and Policy, (202) 418–2030.

SUPPLEMENTARY INFORMATION: This *Fifth Report and Order* in PP Docket No. 93–253, adopted June 29, 1994, and released July 15, 1994, is available for inspection and copying during normal business hours in the FCC Dockets Branch, Room 230, 1919 M Street NW., Washington, DC. The complete text may be purchased from the Commission's copy contractor, International Transcription Service, Inc., 2100 M Street, NW., Suite 140, Washington, DC 20037, telephone (202) 857–3800.

Paperwork Reduction Act

In the *Fifth Report and Order* in PP Docket No. 93–253, the Commission has amended 47 CFR Part 24 to add new Subparts H and I which contain rules and requirements governing the award of broadband PCS licenses through a system of competitive bidding. Applicants are required to file certain information so that the Commission can determine whether the applicants are legally, technically, and financially qualified to be licensed. Affected public are any member of the public who wants to become a licensee. Implementation of the rules contained in the *Fifth Report and Order* will impose reporting and recordkeeping requirements on the public. The Federal Communications Commission will submit an information collection request to OMB for review and clearance under the Paperwork Reduction Act of 1980, 44 U.S.C. Section 3507. Persons wishing to comment on this information collection should contact Timothy Fain, Office of Management and Budget, Room 3225, New Executive Office Building, Washington, DC 20503, (202) 395–3561. For further information, contact Judy Boley, Federal Communications Commission, (202) 418–0210.

Fifth Report and Order

Adopted: June 29, 1994

Released: July 15, 1994

By the Commission: Commissioners Quello, Barrett, Ness and Chong issuing separate statements.

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I. Introduction

1. In this *Fifth Report and Order*, we adopt rules to conduct auctions for the award of more than 2,000 licenses to provide personal communications services in the 2 GHz band, which we call "broadband PCS." These broadband PCS auctions will constitute the largest auction of public assets in American history and are expected to recover billions of dollars for the United States Treasury. More importantly, the auctions will lead to the introduction of an array of new telecommunications products and services that are expected to fuel our nation's economic growth and revolutionize the way in which Americans communicate.

2. We also adopt in this Order provisions to fulfill Congress's mandate that we ensure that small businesses, rural telephone companies and businesses owned by minorities and women are given the opportunity to participate in the provision of broadband PCS. These rules will provide unprecedented opportunities for these designated entities to become meaningfully involved in the provision of a new telecommunications service. This action seeks to ensure that licenses for broadband PCS are disseminated to a wide variety of applicants and to remedy the serious underrepresentation of minorities and women in the provision of telecommunications services. Further, by the actions we take today we seek to ensure that PCS is provided to all communities in this country, including rural areas.

3. Broadband PCS will provide a variety of mobile services that will

compete with existing cellular services. In addition, broadband PCS is expected to provide new mobile communications capabilities that are not currently available. These services will be provided by means of a new generation of communications devices that will include small, lightweight, multi-function portable phones, portable facsimile and other imaging devices, new types of multi-channel cordless phones, and advanced paging devices with two-way data capabilities.[1] The introduction of broadband PCS should benefit consumers by raising the overall level of competition in many already competitive segments of the telecommunications industry and by providing competition in other segments for the first time. The broadband PCS industry should also generate thousands of jobs in this country and improve the international competitiveness of the American economy.

4. Auctions for broadband PCS licenses will be conducted pursuant to Section 309(j) of the Communications Act, 47 U.S.C. § 309(j), which was enacted in August 1993. Section 309(j) granted the Commission express authority to employ competitive bidding procedures to award licenses to use the electromagnetic spectrum.[2] Section 309(j)(1) permits auctions only where mutually exclusive applications for initial licenses are accepted for filing by the Commission and where the principal use of the spectrum is reasonably likely to involve the receipt by the licensee of compensation from subscribers in return for enabling those subscribers to receive or transmit communications signals. In the *Second Report and Order* in his proceeding, we concluded that PCS as a class of service satisfies the Section 309(j)(1) criteria. *See Second Report and Order* in PP Docket No. 93–253, 9 FCC Rcd 2348, 59 FR 22980, May 4, 1994 (*Second Report and Order*), at ¶¶ 54–58. Accordingly, if mutually exclusive applications for a broadband PCS license are accepted for filing, we will award that license through competitive bidding.

5. We also concluded in the *Second Report and Order* that we could design auction procedures to govern the award of broadband PCS licenses that would promote the objectives listed in Section 309(j)(3). More specifically, in the *Second Report and Order*, we determined that the use of competitive bidding to award broadband PCS licenses, as compared with other licensing methods, would speed the development and deployment of new services to the public and would encourage efficient use of the spectrum, as required by Section 309(j)(3) (A) and (D). In this regard, we noted that auctions would generally award licenses quickly to those parties who value them most highly and who are therefore most likely to introduce service rapidly to the public. *Id.* at ¶ 57. We also concluded that competitive bidding would recover for the public a portion of the value of the spectrum, as envisioned in Section 309(j)(3)(C). *Id.* We considered a variety of methods to implement Congress's remaining objectives, set forth in Section 309(j)(3)(B), of "promoting economic opportunity" and "avoiding excessive concentration of licenses" by disseminating licenses "among a wide variety of applicants." In the *Second Report and Order*, we adopted rules which provide the Commission with a menu of options to choose from to promote these objectives with respect to particular spectrum services to be auctioned, such as broadband PCS, in service-specific rules.

6. In our *Broadband PCS Reconsideration Order*, we established bandwidth assignments and area designations for broadband PCS. *See Memorandum Opinion and Order* in GEN Docket No. 90–314, FCC 94–144, 59 FR 32830, June 24, 1994 (*"Broadband PCS Reconsideration Order"); see also Second Report and Order* in GEN Docket No. 90–314, FCC 93–451, 8 FCC Rcd 7700, 58 FR 59174, Nov. 8, 1993. In that Order, we allocated 120 MHz of spectrum for licensed broadband PCS. We divided the licensed broadband PCS spectrum into three 30 MHz blocks (blocks A, B and C) and three 10 MHz blocks (blocks D, E and F). We also designated two different service areas: 493 Basic Trading Areas ("BTAs") and 51 Major Trading Areas ("MTAs").[3] The licenses in frequency blocks A and B will be awarded on an MTA basis, and the licenses on frequency blocks C, D, E and F will be awarded on a BTA basis. A total of 2,074 broadband PCS licenses will therefore be issued.[4] The *Broadband PCS Reconsideration Order* sets forth eligibility rules for obtaining broadband PCS licenses, and establishes construction requirements to facilitate the provision of PCS services. *See Broadband PCS Reconsideration Order* at ¶¶ 102–132, 147–158. By these rules, we intend to promote competition in the wireless telecommunications market by as many different qualified providers as the spectrum can reasonably accommodate and to promote the rapid deployment of the infrastructure required to provide broadband PCS.

II. Executive Summary

7. In this *Fifth Report and Order*, we set forth the specific auction procedures for broadband PCS licenses. We have decided to conduct three auctions: the first for the 99 available PCS licenses in MTA blocks A and B, the second for the 986 PCS licenses in BTA blocks C and F, and the third for the remaining 986 PCS licenses in BTA blocks D and E. That is, the first auction will award licenses for the 30 MHz blocks for large geographic areas. The second auction will award licenses for smaller geographic areas for the two blocks that, as explained below, we have reserved for bidding by relatively small companies. In these "entrepreneurs' blocks," we have designed procedures to ensure that small businesses, rural telephone companies and businesses owned by women and minorities, which we collectively refer to as designated entities, have "the opportunity to participate in the provision" of PCS, as Congress directed in Section 309(j)(4)(D). In the third auction we will award licenses for the remaining 10 MHz blocks.

8. We intend to conduct each auction through simultaneous multiple round bidding with simultaneous stopping rules. Under that approach, no license awarded until the bidding closes on all licenses in the auction. We have determined that simultaneous multiple

[1] We already have adopted rules for competitive bidding on licenses to be awarded to provide personal communications services in the 900 MHz band (narrowband PCS), which will be used primarily to provide advanced paging services, and for licenses to provide Interactive Video and Data Service (IVDS), which will be used to provide services such as home shopping and pay-per-view programming. *See* Third Report and Order in PP Docket No. 99–253, FCC 94–98, 59 FR 26741, May 24, 1994 (narrowband PCS); and Fourth Report and Order in PP Docket No. 93–253, FCC 94–99, 59 FR 24947, May 13, 1994 (IVDS).

[2] We adopted a Notice of Proposed Rule Making to implement Section 309(j) on September 23, 1993. Notice of Proposed Rule Making in PP Docket No. 93–253, 8 FCC Rcd 7635, 58 FR 53488, Oct. 15, 1993 (hereinafter "NPRM" or "Notice"). The Commission received 222 comments, 169 reply comments and numerous *ex parte* presentations relating to this proceeding. Commenters may be referred to herein by abbreviations.

[3] The 493 BTAs and 51 MTAs used in our broadband PCS licensing rules have been adapted from the Rand McNally 1992 Commercial Atlas and Marketing Guide, 123rd Edition, at 38–39.

[4] The Commission has granted pioneer's preference to three broadband PCS applicants, and stated that the parties awarded pioneer's preferences may apply for a 30 MHz MTA broadband PCS license without facing competing applications. *See* Third Report and Order in GEN Docket No. 90–314, 9 FCC Rcd 1337, 59 FR 9419, Feb. 28, 1994. If the Commission grants licenses to the three pioneer's preference grantees, three fewer licenses will be awarded through competitive bidding.

round bidding is appropriate where the value of the licenses is high compared to the cost of conducting the auction and the values of licenses are interdependent. *See Second Report and Order* at ¶106–111. We believe the former condition is met here because other government agencies project that the boardband PMS licenses will be auctioned for as much as $10.6 billion. *See id.* at ¶177. The latter condition is also satisfied because the record demonstrates, for example, that a license for the Philadelphia MTA or the Richmond MTA will likely be valued more highly if it is held in conjunction with the license for the Washington-Baltimore MTA. We are adopting a variety of rules governing bid increments and bidding activity to move the auctions toward completion in a reasonable period of time. We are also retaining the ability to use other approaches, including sequential auctions for the licenses, and to make other adjustments to the auction process as necessary.

9. As mentioned above, we establish by this Order a number of rules to implement Congress's mandate in Section 309(j)(4)(D) that we ensure that designated entities are "given the opportunity to participate in the provision of spectrum-based services" such as broadband PCS. To accomplish this objective, Congress directed us to "consider the use of tax certificates, bidding preferences, and other procedures." 47 U.S.C. § 309(j)(4)(D). We construe this congressional directive as a mandate that we take the steps that are necessary to ensure that designated entities have a realistic opportunity to obtain broadband PCS licenses. We apply that mandate in light of *Metro Broadcasting, Inc. v. FCC*, 497 U.S. 547, 564–565 (1990), which held that "benign race-conscious measures mandated by Congress * * * are constitutionally permissible to the extent that they serve important governmental objectives within the power of Congress and are substantially related to achievement of those objectives." The rules we adopt also further Congress's objectives, set forth in Section 309(j)(3)(B), of "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small business, rural telephone companies, and businesses owned by members of minority groups and women." Each of the steps adopted here is directly related to carrying out Congress's stated objective of promoting economic opportunity by disseminating broadband PCS licenses to a wide variety of applicants, including designated entities.

10. The record clearly demonstrates that the primary impediment to participation by designated entities is lack of access to capital. This impediment arises for small businesses from the higher costs they face in raising capital and for businesses owned by minorities and women from lending discrimination as well. In this regard, it should be noted that although auctions have many beneficial aspects, they threaten to erect another barrier to participation by small businesses and businesses owned by minorities and women by raising the cost of entry into spectrum-based services.

11. Congress has recognized that "small business concerns, which represent higher degrees of risk in financial markets than do large businesses, are experiencing increased difficulties in obtaining credit."[5] Congress further found that women and minorities face particularly severe problems in raising capital.[6] A study of mortgage lending conducted by the Federal Reserve Bank of Boston in 1992 illustrates how problems arise. That study showed that in cases in which lenders exercised discretion in deciding whether to make a loan to a borrower who presented some problems (which includes most mortgage applicants), that discretion tended to be exercised in favor of whites. As a result, a minority applicant for a mortgage who was identical in all pertinent respects to a white applicant nevertheless was 60 percent more likely to be denied a mortgage loan.[7] At the same time, discrimination was difficult to show in any particular case, although it emerged clearly when data concerning hundreds of mortgage applications were reviewed.

12. The first measure we adopt to fulfill Congress's mandate that we ensure that designated entities have the opportunity to participate in providing broadband PCS is to reserve the 30 MHz licenses on block C and the 10 MHz licenses on block F, both of which are to be licensed in each of the 493 BTAs, for bidding by entities with annual gross revenues of less than $125 million and total assets of less than $500 million. These limits will exclude many large telecommunications companies from bidding on these two blocks. We will not allow one entity to obtain more than 10 percent (*i.e.*, 98) of the licenses on these two blocks. By excluding large companies from bidding in these two blocks and by limiting the total number of licenses that one entity can obtain in these blocks we create numerous opportunities for small entities to become PCS providers and thereby ensure that broadband PMS licenses will be disseminated "among a wide variety of applicants," as required by Section 309(j)(3)(B).

13. Reserving blocks C and F for bidding by relatively small companies will not, by itself, be sufficient to ensure that small businesses and businesses owned by members of minority groups and women have the opportunity to obtain broadband PCS licenses. Under the definition we apply or purposes of this Order, "small businesses" are those with gross revenues not exceeding $40 million, and those businesses will be at a disadvantage in competing against companies with gross revenues of as much as $125 million. In addition, businesses owned by members of minority groups and women face discrimination that poses additional obstacles for these firms. Accordingly, we take five related steps within the entrepreneurs' blocks to assist designated entities in attracting the capital necessary to obtain a broadband PCS license.

14. First, we will structure our attribution rules to allow those extremely large companies that may not bid on blocks C and F to invest in entities that bid on those blocks. More specifically, we will allow the relatively small companies eligible to bid in these blocks to obtain investment representing up to 75 percent of their passive equity from larger companies so long as each investor holds no more than a 25 percent passive equity interest. In addition, eligible businesses owned by minorities and women may choose to have a single investor, no matter how large, hold a passive equity interest up to 49.9 percent. These rules, and others that we establish in this Order, are designed to enhance access to capital by businesses owned by minorities and women.

15. Second, to encourage large companies to invest in designated entities and to assist designated entities without large investors to overcome the additional hurdle presented by auctions, we will make bidding credits available to designated entities. More specifically, small businesses will receive a 10 percent bidding credit (or a 10 percent discount on their winning bids).

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[5] Small Business Credit and Business Opportunity Enhancement Act of 1992, Section 331(a)(3), Pub. L. 102–366, Sept. 4, 1992.

[6] *Id.* Sections 112(4) and 331(a)(4).

[7] Mortgage Lending in Boston: Interpreting HMDA Data, Federal Reserve Bank of Boston, Working Paper 92–7 (October 1992).

Businesses owned by minorities and women will receive a 15 percent bidding credit to compensate for the substantial problems they face in attracting capital. The credits will be cumulative, so that a business owned by minorities or women that also qualifies as a small business will receive a 25 percent bidding credit. Under these rules, it still will be more expensive for designated entities to participate in the provision of spectrum-based services than it was before Congress granted us authority to hold auctions, because they will have to purchase licenses. But by adopting bidding credits, which are explicitly authorized by Section 309(j)(4)(D), the Commission seeks to promote economic opportunity and to counterbalance the tendency of auctions to concentrate license ownership in the hands of several very large companies.

16. Third, we will allow most successful bidders within the entrepreneurs' blocks to pay for their licenses in installments for generally the same reasons—encouraging large companies to invest in designated entities, promoting economic opportunity by assisting designated entities in overcoming the additional hurdle presented by auctions, and ensuring that licenses are disseminated widely. In general, successful bidders will be permitted to defer payments of principal on their debt to the government for some period. Small businesses and businesses owned by minorities and women will be permitted to defer payments of principal for a longer period than other successful bidders in these blocks. Finally, businesses owned by minorities and women will be charged a lower interest rate.

17. Fourth, we will extend our tax certificate policies to promote participation by minorities and women in the provision of broadband PCS. The holder of a tax certificate is permitted to defer payment of the capital gains tax that would otherwise be recognized upon the sale of an investment. Our extension of the tax certificate policy to broadband PCS will promote involvement by minorities and women in spectrum-based services in three ways. First, initial investors in such businesses will be eligible for tax certificates upon the sale of their investments. We expect that the availability of such favorable tax treatment will enable minority- and women-owned businesses to attract investors more easily. Second, holders of broadband PCS licenses will be able to obtain tax certificates upon the sale of the business to a company controlled by minorities and women. Third, a cellular operator that sells its interest in an overlapping cellular system to a minority- or woman-owned business to come into compliance with our PCS/cellular cross-ownership rule will be eligible for a tax certificate. Both the second and third policy will further Congress' objective of ensuring that spectrum licenses are disseminated widely and, in particular, to designated entities.

18. Finally, we will reduce the upfront payment for all bidders in the entrepreneurs' block. Bidders in the other blocks will pay $0.02 per MHz per pop while winners in the entrepreneurs' blocks will receive a 25 percent discount and pay only $0.015 per MHz per pop as a pre-auction payment.

19. Congress was also concerned that rural areas not go unserved by PCS, and therefore directed us to ensure participation in auctions for spectrum-based services by rural telephone companies who have a history of service to rural areas and an established infrastructure on which to build a PCS business effectively. Thus, we establish partitioning rules in this Order that will allow them to use their existing wireline network to efficiently and expeditiously provide PCS in rural areas. In addition, most rural telephone companies will qualify to bid on the entrepreneurs' blocks, and hence will be eligible for installment payments. Those rural telephone companies that qualify as small or minority- or women-owned businesses will also be able to take advantage of the applicable bidding credits.

20. The rules that we adopt today are designed to ensure that only *bona fide* designated entities qualify for the special provisions established to ensure their participation in broadband PCS. The rules are designed to enable designated entities to attract passive equity from non-designated entities, provided that designated entities maintain control and a substantial entity stake in the ventures at all times. The Commission will not tolerate "fronts" that are controlled by supposedly passive investors, and we will be vigilant in preventing abuse of the designated entity provisions. Our rules are also designed to prevent designated entities from assigning licenses obtained through the use of these special measures or who otherwise lose their designated entity status before the end of a required five-year holding period.

21. The following sections of this *Fifth Report and Order* discuss in detail the actions we have outlined above.

III. Auctionability of Broadband PCS

22. Section 309(j)(1) of the Communications Act, as amended, 47 U.S.C. § 309(j)(1), permits auctions only where mutually exclusive applications for initial licenses or construction permits are accepted for filing by the Commission and where the principal use of the spectrum will involve or is reasonably likely to involve the receipt by the licensee of compensation from subscribers in return for enabling those subscribers to receive or transmit communications signals. In the *Second Report and Order*, we concluded that PCS as a class of service would satisfy the section 309(j)(1) criteria for auctionability. *See Second Report and Order* at ¶¶ 54–58. Specifically, based on the record in this proceeding and in GEN Docket No. 90–314, we concluded that the principal use of broadband PCS spectrum satisfied these auction criteria. *Id.* at ¶ 56. Thus, if mutually exclusive applications for a broadband PCS license are accepted for filing, we will award that license through competitive bidding.[8]

23. As noted above, we concluded in the *Second Report and Order* that the criteria in Section 309(j)(3) will be satisfied by competitive bidding for broadband PCS licenses, and thus that broadband PCS should be subject to our competitive bidding procedures. We determined that the use of competitive bidding to award broadband PCS licenses, as compared with other licensing methods, will speed the development and deployment of new services to the public with minimal administrative or judicial delay, and will encourage efficient use of the spectrum as required by Section 309(j)(3) (A) and (D). We also concluded that competitive bidding would recover for the public a portion of the value of the spectrum, as envisioned in Section 309(j)(3)(C). *Id.* Finally, in accordance with Section 309(j)(3)(B), we adopted a set of open competitive bidding procedures and a menu of special

[8] In the Second Report and Order, we addressed the only commenter who argued that the Commission should not find that the principal use of PCS is likely to be for the provision of service to subscribers for compensation. *See* Second Report and Order at ¶¶ 55–56. The Commission rejected the argument of Millin Publications, a publisher of specialized information services that intends to utilize PCS frequencies on a non-subscription basis, that the Commission should refrain from making the principal use finding because PCS does not yet exist. We concluded that the overwhelming weight of the comments in this proceeding, as well as our experience with the PCS experiments that we have licensed, reflect that licensed PCS spectrum is likely to be used principally for the provision of service to subscribers for compensation. *See id.* at ¶ 56. We find no basis in the record to depart from this conclusion.

provisions designed to increase opportunities for designated entities who might otherwise face entry barriers. Our views on this matter remain unchanged since adoption of the *Second Report and Order*. We therefore affirm in this Order the use of competitive bidding procedures to award broadband PCS licenses.

IV. Competitive Bidding Design

A. General Competitive Bidding Rules

24. The *Second Report and Order* established the criteria to be used in selecting which auction design method to use for each particular auctionable service. Generally, we concluded that awarding licenses to those parties who value them most highly will foster Congress' policy objectives. In this regard, we noted that since a bidder's ability to introduce valuable new services and to deploy them quickly, intensively, and efficiently increases the value of a license to that bidder, an auction design that awards licenses to those bidders with the highest willingness to pay tends to promote the development and rapid deployment of new services and the efficient and intensive use of the spectrum. In articulating our auction design principles we further stated that: (1) Licenses with strong value interdependencies should be auctioned simultaneously; (2) multiple round auctions, by providing bidders with information regarding other bidders' valuations of licenses, generally will yield more efficient allocations of licenses and higher revenues, especially where there is substantial uncertainty as to value; and (3) because they are relatively expensive to implement and time-consuming, simultaneous and/or multiple round auctions become less cost-effective as the value of licenses decreases. *See Second Report and Order* at ¶ 69.

25. Based on the foregoing, we concluded that where the licenses to be auctioned are interdependent and their value is expected to be high, simultaneous multiple round auctions would best achieve the Commission's goals for competitive bidding. *See Second Report and Order* at ¶¶ 109–111. We indicated that compared with other bidding mechanisms, simultaneous multiple round bidding will generate the most information about license values during the course of the auction and provide bidders with the most flexibility to pursue back-up strategies. Thus, we concluded that simultaneous multiple round bidding is most likely to award interdependent licenses to the bidders who value them the most. We also indicated that this method will facilitate efficient aggregation of licenses across spectrum bands, thereby resulting in vigorous competition among several strong service providers who will be able rapidly to introduce a wide variety of services highly valued by end users. *Second Report and Order* at ¶ 106. In addition, we concluded that because of the superior information and flexibility it provides, this method is likely to yield greater revenues than other auction designs. Thus, we found that the use of simultaneous multiple round auctions would generally be preferred. *Id.*

26. However, because simultaneous multiple round bidding is likely to be more administratively complex and costly both for bidders and for the FCC than sequential or single round bidding, we indicated that we would use this auction design only where license values are interdependent and the expected value of the licenses to be auctioned is high relative to the costs of conducting a simultaneous multiple round auction. *See Second Report and Order* at ¶¶ 110–111.

B. Competitive Bidding Design for Broadband PCS Licenses

27. In the *Second Report and Order* we considered several auction methods including simultaneous multiple round bidding, sequential bidding, and combinatorial bidding. We discuss each of these below. We have chosen to adopt simultaneous multiple round auctions as our auction methodology for broadband PCS licenses. We believe that for broadband licenses this method will best meet Congress' goals in authorizing competitive bidding in section 309(j) of the Communications Act.

1. Simultaneous Multiple Round Auctions

28. There is considerable support in the record for the use of simultaneous multiple round auctions, in which two or more licenses are put up for bid at the same time, and there are multiple bidding rounds in which bidders have the opportunity to top the high bids from the previous round. Several comments and studies in the record by academic auction experts advocate simultaneous multiple round bidding for broadband PCS. *See* comments of PacTel Corporation, Attachment of R. Preston McAfee; comments of Pacific Bell and Nevada Bell, Attachment of Paul R. Milgrom and Robert B. Wilson; comments of NYNEX, Attachment by Robert G. Harris and Michael L. Katz. NTIA also recommends simultaneous multiple round bidding.[9] Comments of NTIA at 14–16. Other experts recommend using some combination of sequential and simultaneous bidding. *See* comments of Bell Atlantic Personal Communications, Inc., Attachment by Barry Nalebuff and Jeremy Bulow; and comments of Telephone and Data Systems, Attachment by Robert J. Weber. Some commenters who originally expressed no opinion on the issue or supported other methods in their comments supported proposals for simultaneous bidding in their reply comments. *See* reply comments of AT&T, GTE Service Corp. and Community Service Telephone Co.

29. The analysis in the *Second Report and Order* also supports simultaneous multiple round bidding for broadband PCS auctions. We concluded that multiple round bidding is generally superior to single round bidding, and that when licenses are interdependent, simultaneous bidding is generally superior to sequential bidding. As we noted in the *Second Report and Order*, multiple-round auctions have the advantage over single-round auctions insofar as they provide more information to bidders about the value that other bidders place on licenses, increasing the likelihood that the licenses are acquired by those who value them most highly and increasing the revenue likely to be gained from the auction. Multiple-round auctions are also more likely to be perceived as open and fair. The disadvantage of multiple round auctions is that they have higher administrative costs than single round auctions. *Second Report and Order* at ¶¶ 82–85.

30. As noted in the *Second Report and Order*, simultaneous auctions are more likely than sequential auctions to award interdependent licenses efficiently because they provide more information about the value of interdependent licenses and allow the use of that information because all licenses remain available throughout the bidding process. Simultaneous auctions are also likely to raise more revenue than sequential auctions for two reasons. First, they increase the value of the licenses by facilitating efficient aggregation. Second, because they provide more information about the value of interdependent licenses they reduce the propensity of sophisticated bidders to bid cautiously in order to avoid the "winner's curse"—the tendency for the winner to be the bidder

[9] NTIA also supports all-or-nothing bids on groups of licenses, *i.e.*, combinatorial bidding, in conjunction with simultaneous multiple round bidding.

who most overestimates the value of the item up for bid. Simultaneous auctions also eliminate the need to choose the order in which licenses will be auctioned. The advantage offered by simultaneous auctions depends on how much interdependence exists among licenses. *Second Report and Order* at ¶¶ 89–94. The disadvantages of simultaneous multiple round auctions appear to be that they may be difficult to implement and there is little experience in their use. *Second Report and Order* at ¶ 95.

31. We agree with commenters who support simultaneous multiple round bidding for awarding broadband PCS licenses. Estimates of total PCS revenues by the Office of Management and Budget and the Congressional Budget Office indicate that the value of broadband PCS licenses will likely be sufficiently high to warrant the use of simultaneous auctions.[10] We further believe that the values of most broadband PCS licenses will be significantly interdependent because of the desirability of aggregation across spectrum blocks and geographic regions and because there is a high degree of substitutability among licenses with the same amount of spectrum and covering the same geographic area. *See Second Report and Order* at ¶¶ 90–91. Compared with other bidding mechanisms, simultaneous multiple round bidding generates the most information about license values during the course of the auction and provides bidders with the most flexibility to pursue back-up strategies, and is therefore most likely to award licenses to the bidders who value them the most. Simultaneous multiple round auctions will also facilitate efficient aggregation across spectrum bands, where permitted, thereby enhancing competition among wireless products and services.

32. We recognize, however, that simultaneous multiple round bidding may involve a greater degree of complexity than other competitive bidding methods, and that it may present greater operational difficulties both for the FCC and for bidders, especially where many bidders are expected to participate. Therefore, we will use a sequence of simultaneous auctions. Licenses that are highly interdependent will be grouped together and auctioned simultaneously.

2. Sequential Auctions

33. In a pure sequential auction, whether oral or electronic, licenses are put up for bid one at a time, so that bidding ends on one item before it begins on the next item. Sequential multiple round oral or electronic auctions generate valuable information about earlier auctioned licenses, which can assist bidders in valuing later auctioned licenses. If license values are interdependent, however, sequential oral or electronic auctions are less likely than simultaneous auctions to award interdependent licenses to the parties who value them most highly and to result in the efficient aggregation of licenses, because bidders for licenses that are auctioned early must bid with less information about the value of licenses to be auctioned later, and they will have less opportunity to pursue backup bidding strategies. For these reasons, we conclude that sequential multiple round auctions are less preferred in the award of broadband PCS licenses than simultaneous multiple round auctions. Nevertheless, if, as a result of our auction experience, we determine that the operational costs or complexities associated with simultaneous multiple round auctions outweigh their benefits, we may decide instead to employ pure sequential oral or electronic (multiple round) auctions or a sequence of single combined oral auctions in which bidding is combined for all licenses in a given band with the same bandwidth and the same geographic service area. If such a change becomes necessary, the auction method will be announced by Public Notice before each auction.

34. If we should decide in the future to use sequential oral or sequential electronic bidding for relatively homogeneous licenses, we will employ a single combined auction design. Under this approach, the Commission will combine bidding for all licenses in the same band with the same amount of spectrum and same geographic service area.[11] Licenses will be awarded market by market to the highest bidders until all the available licenses are exhausted, *e.g.*, two relatively homogeneous licenses would be awarded to the two highest bidders. Because broadband PCS licenses may not be perfectly homogeneous (*i.e.*, bidders may prefer one frequency over another within the same geographic region for purposes of efficient aggregation), winning bidders will be given the opportunity to choose among licenses for which bidding is combined in descending order of their bid amounts (*i.e.*, the highest bidder will pick first).

3. Combinatorial Bidding

35. In general terms, combinatorial bidding allows bidders to bid for multiple licenses as all-or-nothing packages.[12] Combinatorial bidding can be implemented with either simultaneous or sequential auction designs. Although we recognized in the *Second Report and Order* that there may be significant benefits associated with combinatorial bidding, especially in terms of efficient aggregation of licenses, we concluded that simultaneous multiple round auctions offer many of the same advantages without the same degree of administrative and operational complexity and without biasing auction outcomes in favor of combination bids. *See Second Report and Order* at ¶¶ 101–105. On balance, we believe that the advantages of combinatorial bidding appear unlikely to outweigh the disadvantages. While broadband PCS licenses are likely to be worth more to some bidders as a part of a package, we believe that simultaneous multiple round bidding will provide these bidders with ample opportunity to express the value of interdependent licenses. Moreover, we conclude that there will not be any extreme discontinuity in value if some licenses in a package are not obtained. We believe that the opportunity to acquire licenses in post-auction transactions and the ability to withdraw bids (upon payment of the bid withdrawal penalty) will limit the risks associated with failing to acquire all of the licenses in a desired package. Nevertheless, if, based on our experience with the initial simultaneous multiple round auctions and auction experiments, we determine that such auctions do not result in efficient aggregation of licenses, and if there are significant advances in the development of combinatorial auctions,

[10] A study by the Congressional Budget Office estimated that an auction for PCS licenses on two 25 MHz nationwide blocks of spectrum could raise $1.3 billion to $5.7 billion in revenues. Congressional Budget Office, *Auctioning Radio Spectrum Licenses*, at 23 (March 1992). The Office of Management and Budget estimated that auctioning broadband PCS licenses would generate $12.6 billion in revenues. *Budget of the United States Government, Analytical Perspective, Fiscal Year 1995*, at 220 (February 1994).

[11] This approach was proposed by Bell Atlantic. *See* comments of Bell Atlantic Personal Communications Inc., Attachment by Barry Nalebuff and Jeremy Bulow at 4–5. Single combined auctions are used by the U.S. Department of the Treasury to sell U.S. securities.

[12] In combinatorial bidding, if a bid for a group of licenses exceeds the sum of the highest bids for the individual licenses that comprise the package, then the package bid would win. In the Second Report and Order we also indicated that if we were to utilize combinatorial bidding we might institute a premium so that the combinatorial bid would win only if it exceeded the sum of the bids for individual licenses by a set amount. *See* Second Report and Order at ¶ 114. NTIA is the main advocate of combinatorial bidding. *See* comments of NTIA, and *ex parte* submission of NTIA in PP Docket No. 93–253, February 28, 1994.

we may, by public notice prior to a specific auction, choose to use combinatorial bidding techniques in conjunction with simultaneous multiple round auctions.

C. Bidding Procedures

1. Grouping of Licenses

36. In the *Second Report and Order*, the Commission concluded that highly interdependent licenses should be grouped together and put up for bid at the same time in a multiple round auction. *See Second Report and Order* at ¶¶ 106–107. This will facilitate awarding licenses to the bidders who value them most highly because it will provide bidders information about the prices of complementary and substitutable licenses while such licenses are still up for bid. The magnitude of the benefit of auctioning a group of licenses together in a simultaneous multiple round auction increases with the degree of interdependence among the licenses. On the other hand, the *Second Report and Order* also noted that the cost and complexity, both for the FCC and for bidders, of auctioning a very large number of interdependent licenses simultaneously may outweigh the informational and bidding flexibility advantages. *See Second Report and Order* at ¶ 107. Accordingly, although we believe that all broadband PCS licenses are interdependent, we will not auction them all simultaneously. Instead, we will divide the licenses into three groups by combining those licenses that are most closely related so that there will be limited interdependence across groups. Then we will sequentially conduct a separate simultaneous multiple round auction for each group. We formed the three groups in two conceptual steps. First, we separated the "entrepreneurs'" blocks (C and F) from all other blocks.[13] Then, we separated the large unrestricted blocks (A and B, with 30 MHz of spectrum and MTA geographic scope) from the small ones (D and E, with 10 MHz of spectrum and BTA geographic scope).

37. In the first auction, the 99 available MTA licenses in blocks A and B will be put up for bid. In the second auction, the 986 BTA licenses in blocks C and F will be put up for bid. And in the last auction, the 986 BTA licenses in blocks D and E will be put up for bid. As explained below, we believe that this grouping strikes a proper balance among the competing concerns of awarding licenses to the parties who value them most highly, keeping the auction process simple and manageable, minimizing administrative delay, and fostering designated entity participation.

38. Separating the entrepreneurs' blocks (C and F) from all other blocks entails little loss of efficiency because most firms are likely to be interested in licenses in either the entrepreneurs' blocks or the non-restricted blocks, but not both. Large firms cannot bid on entrepreneurs' licenses, although they may partner with firms that can. Small firms can bid on all blocks, but are likely to be most interested in the entrepreneurs' blocks because on these blocks they would not be placed in the position of bidding against large firms.

39. In addition to reducing the complexity of the auctions, auctioning block C licenses after the block A and B licenses is likely to further another objective of auction design—fostering designated entity participation—by enabling designated entities to more easily attract partners. Many potential partners may be unwilling to commit themselves to a partnership arrangement with designated entities prior to the auction of licenses on the A and B blocks. So, designated entities that are unable to raise independent financing for at least the required upfront and down payments may have difficulty participating in an auction in which block C is put up for bid simultaneously with blocks A and B. If, however, block C is auctioned after blocks A and B, we expect that non-designated entities who are unsuccessful in acquiring MTA licenses on blocks A and B will want to become partners with or make investments in designated entities so as to gain an interest in 30 MHz licenses on block C. In addition, the auction on blocks A and B will produce price information that would be valuable to designated entities in their business planning.

40. The efficiency loss associated with separating the large unrestricted blocks (A and B) from the small ones (D and E) depends on the degree of substitutability and complementarity between licenses in these two groups. Auctioning licenses on the D and E blocks separately from those on the A and B blocks may make it more difficult for bidders to pursue a back-up strategy of combining two 10 MHz licenses in the same geographic areas as an alternative to acquiring 30 MHz licenses in the A or B blocks. We believe, however, that this is not likely to be a widely used strategy, because the licenses are defined on a BTA basis while the licenses on the A and B blocks are defined on a MTA basis. It is also possible that some bidders may wish to combine a 10 MHz license with a 30 MHz license in the same geographic area. Although this approach would be easier to pursue if blocks A, B, D and E were auctioned together, we believe that in most cases the amount bidders would be willing to pay for a block A or B license would not be strongly affected by whether they were able to acquire a complementary block D or E license. So auctioning blocks D and E after blocks A and B would not significantly hinder combining 30 MHz and 10 MHz licenses. We conclude that the benefits of administrative simplicity from auctioning license on blocks A and B separately from those on blocks D and E are likely to outweigh the possible loss of efficiency.

2. Bid Increments

41. In using simultaneous multiple round auctions to award broadband PCS licenses, it is important to specify minimum bid increments.[14] The bid increment is the amount or percentage by which the 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. The application of a minimum bid increment speeds the progress of the auction and, along with activity and stopping rules, helps to ensure that the auction comes to closure within a reasonable period of time. Establishing an appropriate minimum bid increment is especially important in a simultaneous auction with a simultaneous closing rule. In that case, all markets remain open until there is no bidding on any license, and a delay in closing one market will delay the closing of all markets.

42. Because we plan to use simultaneous multiple round auctions to award broadband PCS licenses, we believe that it is necessary to impose a minimum bid increment to ensure that the broadband PCS auctions conclude within a reasonable period of time. Commenters addressing the issue generally supported a minimum bid increment of 5 percent. PacTel, for example, argues that this amount will provide a reasonable compromise

[13] As explained in more detail below, we establish economic eligibility criteria for bidders in blocks C and F.

[14] *See* Second Report and Order at ¶¶ 124–126. Commenters who addressed the issue supported minimum bid increments. *See* comments of Telephone and Data Systems, Inc. at 24; comments of PacTel Corporation, Attachment of R. Preston McAfee at 16, 18; comments of Pacific Bell and Nevada Bell, Attachment of Paul R. Milgrom and Robert B. Wilson at 19; reply comments of Telephone and Data Systems, Inc., Attachment of Robert J. Weber at 11; reply comments of PacTel Corporation, Attachment of R. Preston McAfee at 10; reply comments of Pacific Bell and Nevada Bell, Attachment of Paul Milgrom and Robert Wilson, Appendix at 8, 9.

between the goal of completing the auction quickly and that of revealing information about the distribution of valuations among bidders.[15] As we recognized in the *Second Report and Order*, it is important in establishing the amount of the minimum bid increment to express such increment as the greater of a percentage and fixed dollar amount. *See Second Report and Order* at ¶ 126. This will ensure a timely completion of the auction even if bidding begins at a very low dollar amount. Accordingly, we will impose a minimum bid increment of some percentage of the high bid from the previous round or a dollar amount per MHz per pop, whichever is greater, in broadband PCS auctions where multiple round bidding is used.[16]

43. PacTel also suggests, in the context of simultaneous auctions, that the Commission should vary the bid increment, reducing it as the number of active bidders declines.[17] Similarly, PacBell suggests that the bid increment depend on the stage of the auction, with a 5 percent increment in stage I, 2 percent in stage II, and 1 percent in stage III.[18] This would move the auction quickly at the beginning, when prices have limited informational content and there is little benefit to either bidders or the Commission of refined price movements, while allowing bidders to express small differences in valuations as the auction nears a close, increasing both efficiency and auction revenues. Small bid increments also reduce the chances of ties. Where a tie does occur, the high bidder will be determined by the order in which the bids were received by the Commission.[19]

44. Accordingly, we will start the auction with large bid increments, and reduce the increments as bidding activity falls. The minimum bid increment in stage I of the auction will be 5 percent of the high bid in the previous round or $.02 per MHz per pop, whichever is greater.[20] We will reduce the minimum bid increment as we move through the auction stages, with a minimum bid increment of the greater of 2 percent or $.01 per MHz per pop in stage II, and the greater of 1 percent or $.005 per MHz per pop in stage III.[21] The Commission, however, retains the discretion in broadband PCS auctions to set and, by announcement before or during the auction, vary the minimum bid increments for individual licenses or groups of licenses over the course of an auction if the auction is not moving at an appropriate pace.

45. In addition, the Commission will establish a suggested minimum bid on each license. Bids below the suggested minimum bid will count as activity under the activity rule (see *infra*) only if no bids at or above the suggested minimum bid are received. Initial bids must be above the minimum bid increment of $.02 per MHz per pop, but may be below the suggested minimum bid. Once a bid has been received on a license, the suggested minimum bid is no longer applicable in subsequent rounds. The amount of the suggested minimum bid may vary by market size, with a larger minimum bid in larger markets, and will be announced by public notice prior to each auction. We will establish suggested minimum bids at no less than $.05 per MHz per pop and not more than $.20 per MHz per pop. The suggested minimum bid provides bidders an incentive to start bidding at a substantial fraction of the final prices of licenses, thus ensuring a rapid conclusion of the auction, while still allowing for bidding on licenses whose market values are below the suggested minimum bids.[22]

3. Stopping Rules for Multiple Round Auctions

46. We also noted in the *Second Report and Order* that with multiple round auctions a stopping rule must be established for determining when the auction is over.[23] In simultaneous multiple round auctions, bidding may close separately on individual licenses, simultaneously on all licenses, or a hybrid approach may be used. Under an individual, license-by-license approach, bidding closes on each license after one round passes in which no new acceptable bids are submitted for that particular license. With a simultaneous stopping rule, bidding remains open on all licenses until there is no new acceptable bid on any license. This approach has the advantage of providing bidders full flexibility to bid for any license as more information becomes available during the course of the auction, but it may lead to very long auctions, unless an activity rule (*see* discussion *infra*) is imposed. A hybrid approach combines the first two stopping rules. For example, we may use a simultaneous stopping rule (along with an activity rule designed to expedite closure for licenses subject to the simultaneous stopping rule) for the higher value licenses. For lower value licenses, where the loss from eliminating some back-up strategies is less, we may use simpler license-by-license closings. In the *Second Report and Order* we recognize that such a hybrid approach might simplify and speed up the auction process without significantly sacrificing efficiency or expected revenue. *Id.*

47. For broadband PCS we believe that a simultaneous stopping rule is preferable for all MTA licenses. MTA licenses are expected to have relatively

[15] *See* comments of PacTel, Exhibit by R. Preston McAfee, Auction Design for Personal Communications Services at 16. Milgrom and Wilson also recommend a minimum bid increment of 5 percent (subject to a dollar minimum and maximum) for stage I of the auction, and smaller percentages for stages II and III. Reply comments of PacBell, Attachment of Paul Milgrom and Robert Wilson, Appendix at 8, 9.

[16] "Pop" refers to each member of the population of the license service area and "MHz" refers to the amount of spectrum, in megahertz, that the licensee is permitted to use. For example, for a 30 MHz license with a population of 10 million, if the minimum bid increment were the greater of 5 percent or $0.02 per MHz per pop, the minimum bid increment would be $6 million ($0.02×30 MHz×10,000,000) when the high bid from the previous round is less than $120 million. If the high bid from the previous round exceeds $120 million, the minimum bid would be 5 percent of the value of that bid (since 5 percent of a bid over $120 million is greater than $6 million).

[17] *See* comments of PacTel, Exhibit by R. Preston McAfee, *Auction Design for Personal Communications Services*, at 18.

[18] *See* reply comments of PacBell, Appendix to Exhibit by Paul Milgrom and Robert Wilson, *auction Rules and Procedures*, at 8–9. For a discussion of auction stages in simultaneous multiple round auctions see the section on activity rules *infra*.

[19] *See* Second Report and Order at ¶ 125.

[20] $0.02 per MHz per pop would represent almost 6 percent of the value of a license based on an extrapolation from the $10.6 billion estimated value of the 120 MHz of broadband PCS spectrum to be licensed. *See* Second Report and Order at ¶ 177.

[21] In oral or electronic sequential auctions the auctioneer may within his or her sole discretion establish and vary the amount of the minimum bid increment in each round of bidding.

[22] If the Commission were to preclude bidding below a starting minimum bid, a bidder who is interested in only a single license for which the minimum bid is set above the market value would be forced to use an activity rule waiver or drop out of the auction under the activity rules adopted *infra*.

[23] *See* Second Report and Order at ¶ 127. Commenters agreed on the importance of the appropriate stopping rule. PacTel proposes that bidding on an individual license close if there are no new bids on that license within a given round, or if there are fewer than two bids greater than a "suggested minimum bid." Comments of PacTel, Attachment of R. Preston McAfee at 16–18. Pacific Bell recommends simultaneous closing of bidding on all licenses when there are no new acceptable bids on any license. Comments of PacBell, Attachment of Paul Milgrom and Robert Wilson at 19; reply comments of PacBell, Attachment of Paul Milgrom and Robert Wilson, Appendix at 5. Bell Atlantic Personal Communications, on the other hand, asserts that in simultaneous auctions, no stopping rule can prevent strategic delays. They provide no evidence for this, however, and do not discuss any closing rule in detail. In discussing the Milgrom-Wilson closing rule they fail to account for the Milgrom-Wilson activity rule, which will reduce the likelihood of delay, and the fail-safe closing mechanism proposed by Milgrom and Wilson. Reply comments of Bell Atlantic Personal Communications, Inc., Attachment of Barry J. Nalebuff and Jeremy I. Bulow at 12.

high values and are fewer in number than BTA licenses, which will reduce the complexity of implementing a simultaneous stopping rule. Since we intend to impose an activity rule (as discussed below), we believe that allowing simultaneous closing for all licenses will afford bidders flexibility to pursue back-up strategies without running the risk that bidders will hold back their bidding until the final rounds. We also intend to use a simultaneous stopping rule for BTA licenses. However, because of the large number of BTA licenses, we retain the discretion either to use a hybrid stopping rule or to allow bidding to close individually for these licenses if as we gain experience with auctions we determine that simultaneous stopping rules are too complex to implement for very large numbers of licenses. The specific stopping rule for ending bidding on BTA licenses will be announced by Public Notice prior to auction.

48. In addition, we will retain the discretion to declare at any point after 40 rounds in a simultaneous multiple round auction that the auction will end after some specified number of additional rounds.[24] This gives the Commission a means to prevent bidders from continuing to bid on a few low value licenses solely to delay the closing for all licenses in an auction with a simultaneous closing rule. This will also ensure that the Commission can end the auction if it determines that the benefits from ending the auction, and hence issuing licenses more rapidly, exceeds the possible efficiency loss from cutting off bidding on a few low value licenses. If we exercise this option, we favor the use of three final rounds. Allowing more than one additional round provides some opportunity for counter-offers, thus reducing the risk that a license will not be awarded to the party that values it most highly.

49. Moreover, if this fail-safe mechanism is used, we will accept bids in the final round(s) only for licenses on which the highest bid increased in at least one of the preceding three rounds. No new bids will be accepted for other licenses.[25] There are two reasons not to take bids on licenses on which there has been no recent bidding. First, the fact that bidding on an individual license may close will provide an additional incentive to bid actively and thus speed the conclusion of the auction. If bids are accepted on all licenses in the final round(s) there is less cost to a bidder in holding back. Second, closing bidding on licenses for which activity has ceased ensures high bidders for those licenses that they will not lose a license without having an opportunity to make a counter-offer.[26] This reduces the uncertainty associated with aggregating licenses that are worth more as a package than individually. If final bids are accepted on all licenses, a high bidder on an aggregation of licenses may unexpectedly lose a critical part of the aggregation and have no chance to regain it except in the post-auction market, where bargaining or other transaction costs may be high.

4. Duration of Bidding Rounds

50. In simultaneous multiple round auctions for large numbers of interdependent high-value licenses, bidders may need a significant amount of time to evaluate back-up strategies and consult with their principals. For this reason, PacBell proposes one bidding round per day and PacTel proposes three business days per bidding round for broadband PCS.[27] We will provide bidders with a single business day to submit bids, and conduct one round of bidding each business day.[28] However, we reserve the discretion to vary, by public notice or announcement, the duration of bidding rounds or the interval at which bids are accepted (*e.g.*, run two or more rounds per day rather than one), in order to move the auction toward closure more quickly. We are more likely to conduct more than one round per day early in an auction than towards the end of an auction. At early stages of an auction prices will be low and contain relatively little information, so bidders will need less time to deliberate. It is in the final stages of an auction, when the consequences of bidding decisions are greatest, that bidders need the most time to deliberate. We 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.

5. Activity Rules

51. As discussed above, in order to ensure that simultaneous auctions with simultaneous stopping rules close within a reasonable period of time and to increase the information conveyed by bid prices during the auction, we believe that it is necessary to impose an activity rule to prevent bidders from waiting until the end of the auction before participating. Because simultaneous stopping rules generally keep all licenses open for bidding as long as anyone wishes to bid, they also create an incentive for bidders to hold back until prices approach equilibrium before making a bid. As noted above, this could lead to very long auctions. Delaying serious bidding until late in the auction also reduces the information content of prices during the course of an auction. Without an activity rule, bidders cannot know whether a low level of bidding on a license means that the license price is near its final level or if instead many serious bidders are holding back and may bid up the price later in the auction.[29] An activity rule is less important when licenses close one-by-one because failure to participate in any given round may result in losing the opportunity to bid at all, if that round turns out to be the last.

52. In the *Second Report and Order* we adopted the Milgrom-Wilson activity rule as our preferred activity rule where a simultaneous stopping rule is used. *See Second Report and Order* at ¶¶ 144–145. The Milgrom-Wilson approach encourages bidders to participate in early rounds by limiting their maximum participation to some multiple of their minimum participation level. Bidders are required to declare their maximum eligibility in terms of MHz-pops, and make an upfront payment equal to $0.02 per MHz-pop.[30] (*See* discussion of upfront payments *infra*.) That is, in each round bidders will be limited to bidding on licenses encompassing no more than the number of MHz-pops covered by their upfront payment. Licenses on which a bidder is the high bidder from the previous round count against this

[24] PacBell proposed that in case of inordinate delays in the auction the Commission should have the ability to conclude the auction at any time after 40 rounds by issuing a call for final bids on the following business day for each of those licenses for which the highest bid increased in at least 1 of the preceding 3 rounds. *See* reply comments of PacBell, Attachment of Paul Milgrom and Robert Wilson, Appendix at 5.

[25] *See* reply comments of PacBell, Appendix to attachment by Milgrom and Wilson at 5. *See also* Second Report and Order at ¶ 130, n. 106.

[26] Either the auction will close only when bidding ceases on all licenses, so the high bidder will have an opportunity to respond to any new bids, or the Commission will call for final bids but not accept new bids on licenses on which there have been no new bids in the previous three rounds, so no other bidder will have the opportunity to outbid the high bidder in a final round.

[27] Comments of PacBell, Attachment by Milgrom and Wilson at 19; comments of PacTel, Attachment by McAfee at 16.

[28] With one round per day, the auction may take weeks to complete. This should not impose an excessive burden on bidders, however, because bids may be submitted by telephone or by a computer connected to a telephone line, so bidders need not have a representative in Washington throughout the auction.

[29] *See ex parte* presentation by Paul Milgrom on behalf of PacBell, June 21, 1994.

[30] The number of "MHz-pops" is calculated by multiplying the population of the license service area by the amount of spectrum authorized by the license. We use the terms "per MHz-pop" and "per MHz per pop" interchangeably.

bidding limit. Under this approach, bidders will have the flexibility to shift their bids among any licenses for which they have applied so long as, within each round, the total MHz-pops encompassed by those licenses does not exceed the total number of MHz-pops on which they are eligible to bid. Bidders will be able to secure the option to participate at whatever maximum level they deem appropriate by making a sufficient upfront payment. To preserve their maximum eligibility, however, bidders will be required to maintain activity during each round of the auction. 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, in which case, the bidder does not need to bid on that license in the current round to be considered active on that license.

53. Under the Milgrom-Wilson proposal, the minimum activity level, measured as a fraction of the bidder's eligibility in the current round, will increase during the course of the auction.[31] Milgrom and Wilson divide the auction into three stages. During the first stage of the auction, a bidder is required to be active on licenses encompassing one-third of the MHz-pops for which it is eligible. The "penalty" for falling below that activity level is a reduction in eligibility. At this stage, bidders will lose three MHz-pops in eligibility for each MHz-pop below the minimum required activity level.[32] In the second stage, bidders are required to be active on two-thirds of the MHz-pops for which they are eligible. The penalty for falling below that activity level is a loss of 1.5 MHz-pops in eligibility for each MHz-pop below the minimum required activity level. In the third stage, bidders are required to be active on licenses encompassing all of the MHz-pops for which they are eligible. The penalty for falling below that activity level is a loss of one MHz-pop in eligibility for each MHz-pop below the minimum required activity level. Thus in the final stage, each bidder retains eligibility (for the next round) equal to the MHz-pops for which it is an active bidder in the current round.

54. The auction will start in stage I and move from stage I to stage II when, in each of three consecutive rounds of bidding, the high bid has increased on 10 percent or less of the spectrum (measured in terms of MHz-pops) being auctioned.[33] The auction will move from stage II to stage III when the high bid has increased on 5 percent or less of the spectrum being auctioned (measured in terms of MHz-pops), in each of three consecutive rounds of bidding in stage II.[34] In order to speed up an auction, the Commission may also announce, at any time after the initial 15 rounds, that the next stage of the auction (with a higher minimum participation level) will begin in the next bidding round.[35] Moreover, if as the Commission gains experience with auctions that use activity rules it determines that such auctions tend to move too slowly, it may, by public notice prior to a specific auction, increase the activity levels at which that auction moves between stages. Conversely, if the Commission determines that auctions tend to move too quickly, depriving bidders of sufficient time to deliberate and pursue back-up strategies, it may decrease the activity levels at which an auction moves between stages.

55. Finally, to avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission on a particular day, Milgrom and Wilson recommend permitting each bidder to request and automatically receive a waiver of the activity rule once every three rounds. We believe that some waiver procedure is a critical element of the Milgrom-Wilson activity rule, since the Commission would not wish to reduce a bidder's eligibility due to an accidental act or circumstances not under the bidder's control.

56. We believe that the Milgrom-Wilson approach will best achieve the Commission's goals of affording bidders flexibility to pursue backup strategies, while at the same time ensuring that simultaneous auctions are concluded within a reasonable period of time. Accordingly, we plan to impose such an activity rule in conjunction with a simultaneous stopping rule to award higher value broadband PCS licenses. We intend, however, to use a simpler waiver procedure than that proposed by Milgrom and Wilson. We will permit bidders one automatic waiver from the activity rule during each stage of an auction. A waiver will permit a bidder to maintain its eligibility at the same level as in the round for which the waiver is submitted.[36] A waiver may be submitted either in the round in which bidding falls below the minimum required level to maintain (for the next round) the same eligibility as in that round, or prior to submitting a bid in the next round. If an activity rule waiver is entered in a round in which no other bidding activity occurs, the auction will remain open.[37] However, an activity rule waiver entered after a round in which no other bidding activity occurs will not reopen the auction. If, as we gain both experimental and actual auction experience, we determine that permitting one automatic waiver per auction stage is insufficient to prevent the inadvertent reduction in eligibility of serious bidders, we may, by public notice prior to a specific broadband auction, increase the number of automatic activity rule waivers, or instead allow one automatic waiver

[31] Absent waivers (discussed *infra*), a bidder's eligibility (in terms of MHz-pops) in the current round is determined by the bidder's activity level and eligibility in the previous round. In the first round, however, eligibility is determined by the bidder's upfront payment and is equal to the upfront payment divided by $.02 per MHz-pop.

[32] An alternative way to state the rule for determining eligibility in stage I of an auction is that each bidder will be eligible to bid in the next round on three times the MHz-pops for which it is an active bidder in the current round, or the MHz-pops for which it is eligible in the current round, whichever is less.

[33] The transition rule may also be defined in terms of the "auction activity level"—the sum of the MHz-pops of those licenses whose highest bid increased in the current round, as a percentage of the total MHz-pops of all licenses in that auction. (Note that this definition differs slightly from that used by Milgrom and Wilson. *See* reply comments by PacBell, Appendix to attachment by Milgrom and Wilson at 1.) The auction moves from stage I to stage II when the auction activity level is less than or equal to 10 percent for three consecutive rounds in stage I. The auction moves from stage II to stage III when the auction activity level is less than or equal to 5 percent for three consecutive rounds in stage II. For example, if two nationwide 30 MHz blocks of spectrum are put up for bid and the national population is approximately 250 million, a total of approximately 15,000 million MHz-pops would be available in the auction. If in stage I of the auction, the high bid increases on licenses encompassing less than 1,500 million MHz-pops for three consecutive rounds, the auction moves to stage II. This would be the case, for example, if in three consecutive rounds new bids were received on only a license for the New York MTA (26 million pops) and a license for the Los Angeles MTA (19 million pops), since the two licenses encompass a total of 1,350 million MHz-pops. Once in stage II, if in each of three consecutive rounds new acceptable bids are received on licenses encompassing less than 750 million MHz-pops, the auction would move to stage III.

[34] Once an auction is in stage II, it cannot revert to stage I. Once an auction is in stage III, it remains there.

[35] Moving to stage II prematurely might result in an auction moving too quickly to allow adequate time for consideration and may excessively limit the ability of bidders to pursue alternative backup strategies. *See Second Report and Order* at ¶ 142.

[36] An activity rule waiver cannot be used to correct an error in the amount bid.

[37] If, however, we determine, based on evidence from experimental and actual auctions, that this is likely to excessively delay the close of an auction or result in other adverse strategic manipulation of an auction, we any announce by public notice prior to a specific broadband auction that submission of a waiver will not keep an auction open under any circumstances.

during a specified number of bidding rounds.

57. Furthermore, if, as we gain experience with auctions, we determine that the Milgrom-Wilson three stage activity rule is too complicated or costly to administer, we may alternatively impose a less complex activity rule. *See Second Report and Order* at ¶ 144. We will announce by Public Notice before each auction the activity rule that will be employed in that particular auction.

V. Procedural, Payment, and Penalty Issues

A. Pre-Auction Application Procedures

58. In the *Second Report and Order*, the Commission established general competitive bidding rules and procedures which we noted may be modified on a service-specific basis. *See* 47 CFR Part 1, subpart Q. As discussed below, we will generally follow the procedural, payment and penalty rules established in the *Second Report and Order* with certain minor modifications designed to address the particular characteristics of the broadband PCS service. These rules are structured to ensure that bidders and licensees are qualified and will be able to construct systems quickly and other service to the public. By ensuring that bidders and license winners are serious, qualified applicants, these rules will minimize the need to re-auction licenses and prevent delays in the provision of broadband PCS service to the public. In addition, as we proposed in the Notice at ¶ 129, we adopt general procedural and processing rules based on Part 22 of the Commission's Rules.

59. Section 309(j)(5) provides that no party may participate in an auction "unless such bidder submits such information and assurances as the Commission may require to demonstrate that such bidder's application is acceptable for filing." 47 U.S.C. § 309(j)(5). Moreover, "[n]o license shall be granted to an applicant selected pursuant to this subsection unless the Commission determines that the applicant is qualified pursuant to [Section 309(a)] and Sections 308(b) and 310" of the Communications Act. *id.* As the legislative history of Section 309(j) makes clear, the Commission may require that bidders' applications contain all information and documentation sufficient to demonstrate that the application is not in violation of Commission rules, and applications not meeting those requirements may be dismissed prior to the competitive bidding. *See* H.R. Rep. No. 111, 103d Cong., 1st Sess. 258 (1993) (H.R. Rep. No. 103–111).

60. In the MPRM, we proposed that all parties interested in participating in an auction for spectrum licenses would be required to file a short-form application (modeled on the Commission's "Transmittal Sheet for Cellular Applications"), and asked whether applicants should also be required to submit a long-form application prior to the auction, or whether the long-form application should be submitted subsequent to the auction. NPRM at ¶ 97. The comments generally agreed that we should require only a short-form application prior to competitive bidding, and that only winning bidders should be required to submit a long-form license application after the auction. Because we believed that such a procedure would fulfill the statutory requirements and objectives and adequately protect the public interest, we incorporated these requirements into the rules adopted in the *Second Report and Order*. *See* 47 CFR §§ 1.2105 and 1.2107. We will extend the application of these rules to the competitive bidding process for broadband PCS.

61. We will be guided by the following procedures in conducting broadband PCS auctions. The Commission will release an initial Public Notice announcing that it will accept applications for specific broadband PCS licenses. This initial Public Notice will specify the licenses and identify the time and place of an auction in the event that mutually exclusive applications are filed. The Public Notice also will specify the method of competitive bidding to be used, including applicable bid submission procedures, stopping rules and activity rules, as well as the deadline by which short-form applications must be filed, and the amounts and deadlines for submitting the upfront payment. *See Second Report and Order* at ¶ 164. We will not accept applications filed before or after the dates specified in Public Notices. Applications submitted before release of a Public Notice announcing the availability of particular license(s), or before the opening date of the filing window specified therein, will be returned as premature. Applications submitted after the deadline specified by Public Notice will be dismissed, with prejudice, as untimely. Soon after release of the initial Public Notice, an auction information package will be made available to prospective bidders.

62. 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[38] by the date specified in the initial Public Notice.[39] The short-form applications will require applicants to provide the information required by Section 1.2105(a)(2) of the Commission's Rules, 47 CFR § 1.2105(a)(2). Specifically, each applicant will be required to specify on its Form 175 applications certain identifying information, including its status as a designated entity (if applicable), its classification (*i.e.*, individual, corporation, partnership, trust or other), the markets and frequently blocks for which it is applying, and assuming that the licenses will be auctioned, the names of persons authorized to place or withdraw a bid on its behalf. In addition, applicants will be required to provide detailed ownership information (*see* Section 24.813(a) of the Commission's Rules) and identify all parties with whom they have entered into any consortium arrangements, joint ventures, partnerships or other agreements or understandings which relate to the competitive bidding process. Applicants will also be required to certify that they have not entered and will not enter into any explicit or implicit agreements, arrangements or understandings with any parties, other than those identified, regarding the amount of their bid, bidding strategies or the particular properties on which they will or will not bid. In addition, applicants for licenses in the entrepreneurs' blocks will be required, as part of their short-form applications, to certify that they are eligible to bid on and win licenses in those blocks. Among other things, this means that they are in compliance with our PCS-cellular and PCS–PCS cross-ownership limitations. As we indicated in the *Second Report and Order*, if the Commission receives only one application that is acceptable for filing for a particular license, and thus there is no mutual exclusivity, the Commission by Public Notice will

[38] Because Section 8 of the Communications Act, 47 U.S.C. § 158, does not currently afford the Commission authority to charge an application fee in connection with PCS applications, broadband PCS applicants will not be required to submit a fee with their short-form application. However, the Commission has requested that Congress amend Section 8 of the Communications Act to provide a specific application fee for PCS services. If the Commission receives application fee authority, the general rules governing submission of fees will apply. *See* 47 CFR § 1.1101 *et seq.* These rules currently provide for dismissal of an application if the application fee is not paid, is insufficient, is in improper form, is returned for insufficient funds or is otherwise not in compliance with our fee rules. Whenever funds are remitted to the Commission, applicants also must file FCC Form 159.

[39] Applicants should submit one paper original and one microfiche original of their application, as well as two microfiche copies.

cancel the auction for this license and establish a date for the filing of a long-form application, the acceptance of which will trigger the procedures permitting petitions to deny. *See Second Report and Order* at ¶ 165.

63. A number of commenters in this proceeding objected to our original tentative conclusion that short-form applications should be judged by a letter-perfect standard. *See* NPRM at ¶ 100. Parties proposed that the Commission allow a brief period for correcting errors in short-form applications. *See, e.g.*, comments of AT&T at 30–31, BellSouth at 36–37. As we stated in the *Second Report and Order*, we believe that the public interest would be better served by encouraging maximum bidder participation in auctions. *See Second Report and Order* at ¶ 167. Therefore, we will provide applicants with an opportunity to correct minor defects in their short-form applications (*e.g.*, typographical errors, incorrect license designations, etc.) prior to the auction. Applicants will not be permitted until after the auction, however, to make any major modifications to their applications, including cognizable ownership changes or changes in the identification of parties to bidding consortia. In addition, applications that are not signed will be dismissed as unacceptable.

64. After reviewing the short-form applications, the Commission will issue a second Public Notice listing all defective applications, and applicants whose applications contain minor defects will be given an opportunity to cure defective applications and resubmit a correction version.[40] After reviewing the corrected applications, the Commission 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 Commission, as discussed below.

B. Upfront Payment

65. The comments in this proceeding generally supported the Commission's proposal to require prospective bidders to make substantial upfront payments prior to auction. *See, e.g.*, comments of Comcast at 18, PacBell at 28, Nextel at 16, and AWCC at 31–32. Consistent with the weight of the comments, we concluded in the *Second Report and Order* that a substantial upfront payment prior to the beginning of an auction is necessary to ensure that only serious and qualified bidders participate. *See Second Report and Order* at ¶ 171. By requiring such a payment we also help to ensure that any bid withdrawal or default penalties are paid. These considerations apply to broadband PCS auctions. We will therefore require all broadband PCS auction participants to tender in advance to the Commission a substantial upfront payment as a condition of bidding.

66. In the Notice, we proposed to require upfront payments based on a $0.02 per MHz per pop formula. Though some commenters favor a fixed upfront payment set by the Commission prior to the auction,[41] most support the Commission's proposed $0.02 per MHz per pop formula, which would enable prospective bidders to tailor their upfront payment to their bidding strategies.[42] Commenters suggest that there should be some fixed minimum on the amount of upfront payment made prior to auction (suggestions range from $2,500 to $100,000 for different services).[43] Some commenters also favor setting a maximum upfront payment, pointing out that our proposed formula yields very high payments in the broadband PCS context.[44]

67. We believe that the standard upfront payment formula of $0.02 per pop per MHz for the largest combination of MHz-pops a bidder anticipates bidding on in any single round of bidding is appropriate for broadband PCS services.[45] Using this formula will provide bidders with the flexibility to change their strategy during an auction and to bid on a larger number of smaller licenses or a smaller number of larger licenses, so long as the total MHz-pops combination does not exceed that amount covered by the upfront payment. For example, when we auction licenses covering the nation simultaneously, a bidder would not be required to file an upfront payment representing national coverage unless it intended to bid on licenses covering the entire nation in a single bidding round. The $0.02 per MHz per pop formula also works well with the Milgrom-Wilson activity rule that we plan to employ in broadband PCS auctions, as described in Section III above. In the initial Public Notice issued prior to each auction, we will announce population information corresponding to each license to enable bidders to calculate their upfront payments.

68. As we indicated in the *Second Report and Order*, we will not set a maximum on upfront payments.[46] We decline to do so because we wish to ensure that those bidding on large numbers of valuable broadband PCS licenses are bidding in good faith and are financially capable of constructing those systems quickly. We recognize that upfront payments for broadband PCS licenses may amount to millions of dollars, but we do not believe that it is unreasonable to expect prospective bidders to tender such sums given the expected overall value of some of these licenses and the expected financial requirements to construct the systems. Indeed, such a requirement is necessary to ensure the seriousness of bidders for these valuable licenses.

69. In the *Second Report and Order*, we accepted commenters' suggestions and established a general minimum upfront payment of $2,500 to ensure that the use of our preferred formula would result in a substantial enough payment that bidders would be deterred from making frivolous bids.[47] Such a minimum upfront payment is needed in connection with auctions where the $0.02 per MHz per pop formula would yield a comparatively small upfront payment (such as those for narrowband PCS licenses in BTAs). Because of the wider bandwidth of broadband PCS licenses, however, this minimum upfront payment will not be relevant in auctions for this service.[48]

70. For broadband PCS auctions, we will follow the procedures for submission of upfront payments outlined in the *Second Report and Order*. Applicants whose short-form applications have been accepted for filing will be required to submit the full amount of their upfront payment to the Commission's lock-box bank by a date

[40] On the date set for submission of corrected applications that on their won discover minor errors in their applications also will be permitted to file corrected applications.

[41] *See, e.g.*, comments of Edward M. Johnson at 2; and LuxCel Group, Inc. at 8.

[42] *See, e.g.*, comments of PacBell at 28; Telocator (now PCIA) at 13; CTIA at 30; and Rochester Telephone Corporation at 13.

[43] *See, e.g.*, comments of Telocator at 20–21; Cellular Communications, Inc. at 15; AT&T at 34; and BellSouth at 41.

[44] *See, e.g.*, comments of Southwestern Bell at 38–40 (arguing generally for a maximum deposit of $50 million for all markets) and AT&T at 34 (supporting a maximum upfront payment of $5 million, with a down payment following the auction).

[45] As discussed in Section VII, *infra*, designated entities will be subject to a lesser upfront payment requirement of $0.015 per MHz per pop. Further, we retain the flexibility to consider using a simpler payment requirement if circumstances warrant.

[46] *See Second Report and Order* at ¶ 179.

[47] *Id.* at ¶ 180.

[48] The smallest bandwidth that a broadband PCS licensee will be authorized to use is 10 MHz, so a $2,500 upfront payment would result for a license area with a population of only 12,500 persons. The least populous BTA in the United States (Williston, North Dakota) has a population of approximately 27,500, and the upfront payment for a 10 MHz license in that BTA would be approximately $5,500.

certain, which will be announced in a Public Notice and generally will be no later than 14 days before the scheduled auction.[49] After the Commission receives from its lock-box bank the names of all applicants who have submitted timely upfront payments, the Commission will issue a Public Notice announcing the names of all applicants that have been determined to be qualified to bid. An applicant who fails to submit a sufficient upfront payment to qualify it to bid on any license being auctioned will not be identified on this Public Notice as a qualified bidder, and it will be prohibited from bidding in the auction. That is, we will require that applicants for broadband PCS licenses submit a sufficient upfront payment to reflect the MHz-pops of the smallest license being put up for bid in a particular auction.[50]

71. Although it would be simpler to require the submission of upfront payments at the same time short-form applications are filed, we agree with those commenters that argued that they should not be required to commit the large sums that will likely be involved in broadband PCS upfront payment for longer than is necessary. Accordingly, applicants will not be required to tender upfront payments with their short-form applications. Instead, as noted above, upfront payments will be due by a date specified by Public Notice, but generally no later than 14 days before a scheduled auction. This period should be sufficient to allow the Commission adequate time to process upfront payment data and release a Public Notice listing all qualified bidders, but not so long as to impose undue burdens upon bidders. The rules set forth in Section 1.2106 of the Commission's Rules concerning upfront payments will be applicable in broadband PCS auctions. Each qualified bidder will be issued a bidder identification number and further information and instructions regarding the auction procedures. During an auction, bidders will be required to provide their bidder identification numbers when submitting bids.

C. Payment and Procedures for Licenses Awarded by Competitive Bidding

1. Down Payment

72. The *Second Report and Order* established a 20 percent down payment by winning bidders to discourage default between the auction and licensing and to ensure payment of the penalty if such default occurs. We concluded that a 20 percent down payment was appropriate to ensure that auction winners have the necessary financial capabilities to complete payment for the license and to pay for the costs of constructing a system, while at the same time not being so onerous as to hinder growth or diminish access. Most of the commenters addressing this issue generally support our proposal that winning bidders increase their deposits with the Commission up to an amount equalling 20 percent of their winning bid or bids. *See, e.g.*, comments of BellSouth at 43–44, PageNet at 35–36, and Telocator at 13. Some commenters feel that a 20 percent down payment requirement would be too high. *See* comments of Sprint at 18 (prefers a 10 percent down payment).

73. We believe that the reasoning that led us to conclude that 20 percent is the appropriate down payment applies to broadband PCS auctions. We therefore will require that, with the exception of bidders eligible for installment payments in the entrepreneurs' blocks (*see* Section VII, *infra*), winning bidders in broadband PCS auctions supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s).[51] Winning bidders will be required to submit the required down payment by cashier's check or wire transfer to our lock-box bank by a date to be specified by Public Notice, generally within five (5) business days following the close of bidding. All auction winners will generally be required to make full payment of the balance of their winning bids within five (5) business days following award of the license. Grant of the license will be conditioned on this payment.

74. An auction winner that is eligible to make payments through an installment plan (*see* Section VII, *infra*) will be subject to different payment requirements. Such an entity will be required to bring its deposits with the Commission up to only 5 percent of its winning bid after the bidding closes, and will pay an additional 5 percent of its winning bid to the Commission after a license is granted.

2. Bid Withdrawal and Default Penalties

75. As we discussed in the *Second Report and Order*, it is critically important to the success of our system of competitive bidding that potential bidders understand that there will be a substantial penalty assessed if they withdraw a high bid, are found not to be qualified to hold licenses or default on payment of a balance due. There was substantial support in the comments for the notion that the Commission is authorized to and should order forfeiture of upfront and down payments if the auction winner later defaults or is disqualified. *See, e.g.*, comments of CTIA at 29–30, AT&T at 35, n.43, PageNet at 35–36, Cook Inlet at 47, and BellSouth at 42–44. We concluded, however, that forfeiture of all amounts that a bidder may have on deposit with the Commission may, in some circumstances, be too severe a penalty and would not necessarily be rationally related to the harm caused by withdrawal, default or disqualification. *See Second Report and Order* at ¶ 197.

76. This logic applies to broadband PCS auctions, so for these auctions we will employ the bid withdrawal, default and disqualification penalties adopted in the *Second Report and Order*, which are reflected in Sections 1.2104(g) and 1.2109 of the Commission's Rules. Any bidder who withdraws a high bid during an auction before the Commission declares bidding closed will be required to reimburse the Commission in the amount of the difference between its high bid and the amount of the winning bid the next time the license is offered by the Commission, if this subsequent winning bid is lower than the withdrawn bid.[52] No withdrawal

[49] Upfront payments 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 made payable to the Federal Communications Commission.

[50] For example, in our first broadband PCS auction (the 30 MHz MTA licenses on blocks A and B), the smallest upfront payment that may be submitted to qualify an applicant to bid will be calculated by multiplying the population of the least populous MTA (American Samoa: population 47,000) times 30 times two cents, or $28,200. It should be noted, however, that this minimal upfront payment will entitle the bidder to bid only on a license to serve American Samoa.

[51] If the upfront payment already tendered by a winning bidder, after deducting any bid withdrawal and default penalties due, amounts to 20 percent or more of its winning bids, no additional deposit will be required. If the upfront payment amount on deposit is greater than 20 percent of the winning bid amount after deducting any bid withdrawal and default penalties due, the additional monies will be refunded. If a bidder has withdrawn a bid or defaulted but the amount of the penalty cannot yet be determined, the bidder will be required to make a deposit of 20 percent of the amount bid on such licenses. When it becomes possible to calculate and assess the penalty, any excess deposit will be refunded. Upfront payments will be applied to such deposits and to bid withdrawal and default penalties due before being applied toward the bidder's down payment on licenses the bidder has won and seeks to acquire.

[52] If a license is re-offered by auction, the "winning bid" refers to the high bid in the auction in which the license is re-offered. If a license is re-offered in the same auction, the winning bid refers to the high bid amount, made subsequent to the withdrawal, in that auction. If the subsequent high bidder also withdraws its bid, that bidder will be required to pay a penalty equal to the difference between its withdrawn bid and the amount of the subsequent winning bid the next time the license is offered by the Commission. If a license which is

penalty will be assessed if the subsequent winning bid exceeds the withdrawn bid. After bidding closes, a defaulting auction winner (*i.e.*, a winner who fails to remit the required down payment within the prescribed time, fails to pay for a license, or is otherwise disqualified) will be assessed an additional penalty of three percent of the subsequent winning bid or three percent of the amount of the defaulting bid, whichever is less. *See* 47 CFR §§ 1.2104(g) and 1.2109. The additional three percent penalty is designed to encourage bidders who wish to withdraw their bids to do so before bidding ceases. We will hold deposits made by defaulting or disqualified auction winners until full payment of the penalty.[53] We believe that these penalties will adequately discourage default and ensure that bidders have adequate financing and that they meet all eligibility and qualification requirements. As we explained in the *Second Report and Order*, we further believe that this approach is well within our authority under both Section 309(j)(4)(B) and Section 4(i) of the Communications Act, 47 U.S.C. § 154(i), as it is clearly necessary to carry out the rapid deployment of new technologies through the use of auctions.[54]

77. In addition, if a default or disqualification involves gross misconduct, misrepresentation or bad faith by an applicant, the Commission may declare the applicant and its principals ineligible to bid in future auctions, and may take any other action that it deems necessary, including institution of proceedings to revoke any existing licenses held by the applicant. *See Second Report and Order* at ¶ 198.

3. Re-Offering Licenses When Auction Winners Default

78. In the event that an auction winner defaults or is otherwise disqualified, the Commission must determine whether to hold a new auction or simply offer the license to the second-highest bidder. Parties commenting on this issue generally favored re-auctioning the license, pointing out that changing market and even technological developments since the initial auction may change the amounts that bidders are willing to pay for a license, especially if the intervening period is relatively long. They urge that any re-auction be open to new bidders, arguing that such a procedure would reduce the incentive of losing bidders to file unmeritorious petitions to deny against the auction winner. *See, e.g.*, comments of BellSouth at 37, Utilities Telecommunications Council at 21.

79. As we stated in the *Second Report and Order*, we believe that, as a general rule, when an auction winner defaults or is otherwise disqualified after having made the required down payment, the best course of action is to re-auction the license. *See Second Report and Order* at ¶ 204. Although we recognize that this may cause a brief delay in the initiation of service to the public, during the time between the original auction and the disqualification circumstances may have changed so significantly as to alter the value of the license to auction participants as well as to parties who did not participate. In this situation, awarding licenses to the parties that value them most highly can best be assured through a re-auction. However, if the default occurs within five (5) business days after the bidding has closed, the Commission retains the discretion to offer the license to the second highest bidder at its final bid level, or if that bidder declines the offer, to offer the license to other bidders (in descending order of their bid amounts) at the final bid levels.[55]

80. If a new auction becomes necessary because of default or disqualification more than five (5) business days after bidding has ended, the Commission will afford new parties an opportunity to file applications. One of our primary goals in conducting auctions is to assure that all serious interested bidders are in the pool of qualified bidders at any re-auction. We believe that allowing new applications will promote achievement of this goal, which outweighs the short delay that we recognize may result from allowing new applications in a re-auction. Indeed, if we were not to allow new applicants in a re-auction, interested parties might be forced into an after-market transaction to obtain the license, which would itself delay service to the public and may prevent the public from recovering a reasonable portion of the value of the spectrum resource.

4. Long-Form Application

81. If the winning bidder makes the down payment in a timely manner, a long-form application filed on FCC Form 401 (as modified), or such other form as may be adopted for Commercial Mobile Radio Service use in GEN Docket No. 93–252, will be required to be filed by a date specified by Public Notice, generally within ten (10) business days after the close of bidding.[56] After the Commission receives the winning bidder's down payment and the long-form application, we will review the long-form application to determine if it is acceptable for filing. In addition to the information required in the long-form application of all winning bidders, each winning bidder on licenses in frequency blocks C and F will be required to submit evidence of its eligibility to bid on licenses in these blocks, as well as evidence to support its claim to any special provisions made available to designated entities. This information may be included in an exhibit to FCC Form 401, and must include the gross revenues and total assets of the applicant and all attributable investors in the applicant, and a certification that the personal net worth of each individual investor does not exceed the eligibility limitation. This information will enable the Commission, and other interested parties, to ensure the validity of the applicant's certification of eligibility to bid in blocks C and F (submitted as part of its FCC Form 175) and its eligibility for any bidding credits, installment payment options, or other special provision. Upon acceptance for filing of the long-form application, the Commission will issue a Public Notice announcing this fact, triggering the filing window for petitions to deny. If the Commission denies all petitions to deny, and is otherwise satisfied that the applicant is

the subject of withdrawal or default is not re-auctioned, but is instead offered to the highest losing bidders in the initial auction, the "winning bid" refers to the bid of the highest bidder who accepts the offer. Losing bidders would not be required to accept the offer, *i.e.*, they may decline without penalty. We wish to encourage losing bidders in simultaneous multiple round auctions to bid on other licenses, and therefore we will not hold them to their losing bids on a license for which a bidder has withdrawn a bid or on which a bidder has defaulted.

[53] In rare cases in which it would be inequitable to retain a down payment, we will entertain requests for waiver of this provision.

[54] *See* Second Report and Order at ¶ 198.

[55] If only a small number of relatively low-value licenses are to be re-auctioned and only a short time has passed since the initial auction, the Commission may choose to offer the license to the highest losing bidders because the cost of running another auction may exceed the benefits.

[56] Schedule B to FCC Form 401 will not be required to be submitted by broadband PCS applicants. However, applicants for broadband PCS licenses proposing to use any portion of broadband PCS spectrum to offer service on a private mobile radio service basis must overcome the presumption that PCS is a commercial mobile radio service. *Regulatory Treatment of Mobile Services*, Second Report and Order in GEN Docket No. 93–252, 9 FCC Rcd 1411, 1460–63, 59 FR 18493, Apr. 19, 1994; 47 CFR § 20.9(a)(11), (b). Applicants (or licensees) seeking to dedicate a portion of the spectrum for private mobile radio service will be required to attach as an exhibit to the Form 401 application a certification that it will offer PCS service on a private mobile radio basis. The certification must include a description of the proposed service sufficient to demonstrate that it is not within the definition of commercial mobile radio service in Section 20.3 of the Commission's Rules. *Id.*

qualified, the license(s) will be granted to the auction winner.

5. Processing and Procedural Rules

82. In the Notice, we proposed to adopt general processing and procedural rules for broadband PCS based on Part 22 of the Commission's Rules. One commenter, AIDE, argues that the Commission's reference to proposed PCS rules is vague and legally insufficient for a Notice of Proposed Rule Making. Comments of AIDE at 16–17. AIDE also asserts that the adoption of PCS processing and procedural rules is beyond the scope of the Notice in this rule making proceeding. *Id.* We disagree. The Notice sought comment on specific rule sections contained in Part 22 of our Rules and asked commenters to indicate what modifications should be made to those rules to adapt them for PCS services. *See* Notice at ¶ 128. In addition, the Notice specifically requested comment on the general procedural, processing and petition to deny procedures that should be used for auctionable services. The Notice's proposal to adopt processing rules based on Part 22 of the Commission's Rules, with any appropriate modifications for PCS services, clearly indicated to commenters the terms of the proposed rules, as is required by 5 U.S.C. § 553 and 47 CFR § 1.413(c). Accordingly, we believe that the Notice's description of the proposed rules was sufficiently specific to alert interested parties to the substance of our proposal and to provide an adequate opportunity for comment on those proposals. Moreover, we conclude that these issues are well within the scope of the Notice.

83. As we proposed, we adopt for broadband PCS a modified version of the application processing rules contained in Part 22 of the Commission's Rules. These rules, which will comprise Subpart I of Part 24 of our Rules, will govern application filing and content requirements, waiver procedures for return of defective applications, regulations regarding modification of applications, and general application processing rules. We also adopt petition to deny procedures based on Section 22.30 of the Commission's Rules. In addition, as we proposed in the Notice, we adopt rules similar to Sections 22.927, 22.928 and 22.929 of our existing rules (47 CFR §§ 22.927, 22.928, 22.929) to prevent the filing of speculative applications and pleadings (or threats of the same) designed to extract money from sincere broadband PCS applicants. In this regard, we limit the consideration that an applicant or petitioner is permitted to receive for agreeing to withdraw an application or a petition to deny to the legitimate and prudent expenses of the withdrawing applicant or petitioner.

84. With regard to petitions to deny, we adopt expedited procedures consistent with the provisions of Section 309(i)(2) of the Communications Act to resolve substantial and material issues of fact concerning qualifications.[57] This provision requires us to entertain petitions to deny the application of the auction winner if petitions to deny are otherwise provided for under the Communications Act or our Rules.

85. As we indicated in the *Second Report and Order*, the Commission need not conduct a hearing before denying an application if it determines that an applicant is not qualified and no substantial issue of fact exists concerning that determination. *See Second Report and Order* at ¶ 202. In the event that the Commission identifies substantial and material issues of fact in need of resolution, Section 309(i)(2) of the Communications Act permits in any hearing the submission of all or part of evidence in written form and allows employees other than administrative law judges to preside over the taking of written evidence. We will incorporate these principles into our broadband PCS procedural rules.

D. Procedures in Alternative Auction Design

86. If we decide to employ a sequential auction design (using either oral or electronic bid submission), the same general rules and procedures described above will be used with certain modifications to fit the oral or electronic auction format. In the case of oral auctions, bidders would be required to follow the procedures described above, including the submission of the standard upfront payment of $0.02 per MHz-pop prior to the auction. Applicants would submit a sufficient upfront payment to cover the total number of MHz-pops they desire to win. Once a bidder has won the maximum number of MHz-pops covered by its upfront payment, that bidder will be precluded from further bidding in the auction.[58] Immediately after bidding closes on a license, the winning bidder (*i.e.*, the high bidder on a license on which bidding has closed) will be asked to sign a bid confirmation form. No other license will be put up for bid until a bid confirmation form is signed by a high bidder on the previous license.[59] Because we recognize that in an oral auction the chances of a bidder accidentally placing a high bid are greater than in other auction methods, and because the harm will be limited if the license is immediately re-offered, we will not impose a penalty on a high bidder who withdraws a high bid by refusing to sign the bid confirmation form. Thus, in an sequential oral auction in which a high bidder declines to sign the bid confirmation form, the license will be immediately put up for bid again. If, however, a high bidder signs a bid confirmation form but subsequently fails to submit the 20 percent down payment or otherwise defaults, the standard default penalties (described *supra*) will apply.[60]

87. If we decide to use sequential electronic bidding, bidders would again follow the general procedures described above including the submission of the standard upfront payment amount of $0.02 per MHz per pop prior to the auction. Applicants would submit a sufficient upfront payment to cover the total number of MHz-pops they desire to win. An applicant will not be eligible to bid on a license for which it has not applied or which contains more MHz-pops than the total MHz-pops covered by the bidder's upfront payment less any MHz-pops already won by that bidder. Once a bidder has won licenses representing the maximum number of MHz-pops reflected in its upfront payment, that bidder will be precluded from further bidding in the auction. Each bidder's eligibility will be computed and tracked by the auction software and bids placed by ineligible bidders will not be accepted. After the auctioneer declares bidding on a license closed and the high bidder has been notified, that bidder will be asked to confirm its high bid. If the high bidder in a sequential electronic auction declines to confirm its high bid, the license will be immediately re-auctioned and no penalty will be imposed. No other licenses will be put up for bid until a bid confirmation form is signed by a high bidder on the previous license.[61] As with sequential oral auctions, if a high bidder signs a bid confirmation form but subsequently

[57] The adoption of such procedures is necessary because Section 309(j)(5) of the Communications Act forbids the granting of licenses through competitive bidding unless the Commission determines that the applicant is qualified.

[58] This is similar to the procedure adopted in the Fourth Report and Order for the oral auctioning of IVDS licenses. *See* Fourth Report and Order in PP Docket No. 93–253, 9 FCC Rcd 2330, 59 FR 24947, May 13, 1994.

[59] If we use single combined bidding, described *supra*, no other licenses will be put up for bid until a bid confirmation form is signed for each license put up for bid together in a combined auction.

[60] *See* 47 CFR §§ 1.2104 and 1.2109.

[61] *See also* n. 59, *supra*.

fails to submit the 20 percent down payment or otherwise defaults, the standard default penalties (described *supra*) will apply.

VI. Regulatory Safeguards

A. Transfer Disclosure Requirements

88. In Section 309(j), Congress directed the Commission to "require such transfer disclosures and anti-trafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits." 47 U.S.C. § 309(j)(4)(E). In the *Second Report and Order*, the Commission adopted safeguards designed to ensure that the requirements of Section 309(j)(4)(E) are satisfied. *See Second Report and Order* at ¶¶ 210–226 and 258–265.

89. In the *Second Report and Order* (at ¶ 214), we stated our belief that it is important to monitor transfers of licenses awarded by competitive bidding in order to accumulate the data necessary to evaluate our auction designs and to judge whether "licenses [have been] issued for bids that fall short of the true market value of the license." H.R. Rep. No. 103–111 at 257. Therefore, we imposed a transfer disclosure requirement on licenses obtained through the competitive bidding process, whether by a designated entity or not. *See* 47 CFR § 1.2111(a). We believe that the transfer disclosure requirements contained in Section 1.2111(a) of the Commission's Rules should apply to all broadband PCS licenses obtained through the competitive bidding process. Generally, licensees transferring their licenses within three years after the initial license grant will be required to file, together with their transfer applications, the associated contracts for sale, option agreements, management agreements, and all other documents disclosing the total consideration received in return for the transfer of its license. As we indicated in the *Second Report and Order*, we will give particular scrutiny to auction winners who have not yet begun commercial service and who seek approval for a transfer of control or assignment of their licenses within three years after the initial license grant, in order to determine if any unforeseen problems relating to unjust enrichment have arisen outside the designated entity context. *See Second Report and Order* at ¶ 214.[62]

[62] We note that these transfer disclosure provisions are in addition to the limitations on transfers that we have adopted in the Broadband PCS Reconsideration Order (with respect to spectrum disaggregation) or elsewhere in this Order (with respect to transfers of licenses in the entrepreneurs' block).

B. Performance Requirements

90. The Budget Act requires the Commission to "include performance requirements, such as appropriate deadlines and penalties for performance failures, to ensure prompt delivery of service to rural areas, to prevent stockpiling or warehousing of spectrum by licensees or permittees, and to promote investment in and rapid deployment of new technologies and services."[63] In the *Second Report and Order* we decided that it was unnecessary and undesirable to impose additional performance requirements, beyond those already provided in the service rules, for all auctionable services. The broadband PCS service rules already contain specific performance requirements, such as the requirement to construct within a specified period of time. *See, e.g.*, 47 CFR § 24.203. Failure to satisfy these construction requirements will result in forfeiture of the license. Accordingly, we do not see the need to adopt any additional performance requirements in this Report and Order.

C. Rules Prohibiting Collusion

91. In the *Second Report and Order*, we adopted a special rule prohibiting collusive conduct in the context of competitive bidding. *See* 47 CFR § 1.2105(c). We referred to the Notice, wherein we indicated our belief that such a rule would serve the objectives of the Budget Act by preventing parties, especially the largest firms, from agreeing in advance to bidding strategies that divide the market according to their strategic interests and disadvantage other bidders. *See Second Report and Order* at ¶ 221. We believe that this rule is nowhere more necessary than with respect to broadband PCS auctions, where we expect bidder interest to be high and the incentives to collude to be great. Thus, Section 1.2105(c) will apply to broadband PCS auctions. This rule provides that from the time the short-form applications are filed until the winning bidder has made its required down payment, all bidders will be prohibited from cooperating, collaborating, discussing or disclosing in any manner the substance of their bids or bidding strategies with other bidders, unless such bidders are members of a bidding consortium or other joint bidding arrangement identified on the bidder's short-form application. In addition, as discussed in Section IV, *supra*, bidders will be required by Section 1.2105(a)(2) of the Commission's Rules to identify on their Form 175 applications all parties with whom they have entered into any consortium arrangements, joint ventures, partnerships or other agreements or understandings which relate to the competitive bidding process. Bidders will also be required to certify that they have not entered and will not enter into any explicit or implicit agreements, arrangements or understandings with any parties, other than those identified, regarding the amount of their bid, bidding strategies or the particular properties on which they will or will not bid.

92. Winning bidders in broadband PCS auctions will also be subject to Section 1.2107 of the Commission's Rules, which among other things requires each winning bidder to attach as an exhibit to the Form 401 long-form application a detailed explanation of the terms and conditions and parties involved in any bidding consortium, joint venture, partnership, or other agreement or arrangement they had entered into relating to the competitive bidding process prior to the close of bidding. All such arrangements must have been entered into prior to the filing of short-form applications. In addition, where specific instances of collusion in the competitive bidding process are alleged during the petition to deny process, the Commission may conduct an investigation or refer such complaints to the United States Department of Justice for investigation. Bidders who are found to have violated the antitrust laws or the Commission's rules in connection with participation in the auction process may be subject to forfeiture of their down payment or their full bid amount and revocation of their license(s), and they may be prohibited from participating in future auctions.

VII. Treatment of Designated Entities

A. Overview and Objectives

93. Congress mandated that the Commission "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." 47 U.S.C. § 309(j)(4)(D). To achieve this goal, the statute requires the Commission to "consider the use of tax certificates, bidding preferences, and other procedures." Thus, while providing that we charge for licenses, Congress has ordered that the Commission design its auction procedures to ensure that designated

[63] *See* Section 309(j)(4)(B) of the Communications Act, as amended.

entities have opportunities to obtain licenses and provide service. For that purpose, the law does not mandate the use of any particular procedure, but it specifically approves the use of "tax certificates, bidding preferences, and other procedures." The use of any such procedure is, in our view, mandated where necessary to achieve Congress's objective of ensuring that designated entities have the opportunity to participate in broadband PCS.

94. In addition to this mandate, the statute sets forth various congressional objectives. For example, it provides that in establishing eligibility criteria and bidding methodologies the Commission shall "promot[e] economic opportunity and competition and ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." 47 U.S.C. § 309(j)(3)(B); *see also id.* § 309(j)(4)(C) (requiring the Commission when prescribing area designations and bandwidth assignments, to promote "economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women).[64] Further, Section 309(j)(4)(A) provides that to promote the statute's objectives the Commission shall "consider alternative payment schedules and methods of calculation, including lump sums or guaranteed installment payments, with or without royalty payments, or other schedules or methods * * * and combinations of such schedules and methods."

95. To satisfy these statutory mandates and objectives, we established in the *Second Report and Order* eligibility criteria and general rules that would govern the special measures for small businesses, rural telephone companies, and businesses owned by members of minority groups and women. We also identified several measures, including installment payments, spectrum set-asides, bidding credits and tax certificates, that we could choose from in establishing rules for auctionable spectrum-based services. We stated that we would decide whether and how to use these special provisions, or others, when we developed specific competitive bidding rules for particular services. In addition, we set forth rules designed to prevent unjust enrichment by designated entities who transfer ownership in licenses obtained through the use of these special measures or who otherwise lose their designated entity status.

96. We intend in the new broadband personal communications service to meet fully the statutory mandate of Section 309(j)(4)(D), as well as the objectives of promoting economic opportunity and competition, of avoiding excessive concentration of licenses, and of ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. As explained more fully in this Order, in some respects it is necessary to do more to ensure that businesses owned by members of minority groups and women have a meaningful opportunity to participate in the provision of personal communications services than is necessary to ensure participation by other designated entities. In particular, we have concluded that steps such as adoption of bidding credits, tax certificates, alternate payment plans and relaxed attribution rules, must be taken to encourage investment in minority and women-owned businesses. These special provisions are tailored to address the major problem facing minorities and women desiring to offer PCS—lack of access to capital. Moreover, because broadband PCS licenses in many cases are expected to be auctioned for large sums of money in the competitive bidding process, and because buildout costs are likely to be high, it is necessary to do more to ensure that designated entities have the opportunity to participate in broadband PCS than is necessary in other, less costly spectrum-based services. In our view, these steps and the others we adopt are required to fulfill Congress' mandate that designated entities have the opportunity to participate in the provision of PCS. The measures we adopt today will also increase the likelihood that designated entities who win licenses in the auctions become strong competitors in the provision of broadband PCS service.

97. In instructing the Commission to ensure the opportunity for designated entities to participate in auctions and spectrum-based services, Congress was well aware of the difficulties these groups encounter in accessing capital. Indeed, less than two years ago, Congress made specific findings in the Small Business Credit and Business Opportunity Enhancement Act of 1992, that "small business concerns, which represent higher degrees of risk in financial markets than do large businesses, are experiencing increased difficulties in obtaining credit."[65] Because of these problems, Congress resolved to consider carefully legislation and regulations "to ensure that small business concerns are not negatively impacted" and to give priority to passage of "legislation and regulations that enhance the viability of small business concerns."[66]

98. Congress also recognized that these funding problems are even more severe for minority and women-owned businesses, who face discrimination in the private lending market. For example, Congress explicitly found that businesses owned by minorities and women have particular difficulties in obtaining capital and that problems encountered by minorities in this regard are "extraordinary."[67] A number of studies also amply support the existence of widespread discrimination against minorities in lending practices. In October 1992, the year prior to passage of the auction law, the Federal Reserve Bank of Boston released an important and highly-publicized study demonstrating that a black or Hispanic applicant in the Boston area is roughly 60 percent more likely to be denied a mortgage loan than a similarly situated white applicant.[68] The researchers measured every variable mentioned as important in numerous conversations with lenders, underwriters, and examiners and found that minority applicants are more likely to be denied mortgages even where they have the same obligation ratios, credit history, loan to value and property characteristics as white applicants. The lending discrimination that occurs, the study found, does not involve the application of specific rules, but instead occurs where discretionary decisions are made. Based on the Boston study, it is reasonable to expect that race would affect business loans that are based on more subjective criteria to an even greater extent than the mortgage loan

[64] As noted in the Second Report and Order, the statute also requires the Commission to promote the purposes specified in Section 1 of the Communications Act, which include, among other things, "to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges." 47 U.S.C. § 151; Second Report and Order at n. 3.

[65] Small Business Credit and Business Opportunity Enhancement Act of 1992, Section 331(a)(3), Pub. Law 102-366, Sept. 4, 1992.

[66] *Id.*, Section 331(b) (2), (3).

[67] *Id.*, Sections 112(4), 331(a)(4).

[68] Mortgage Lending in Boston: Interpreting HMDA Data, Federal Reserve Bank of Boston, Working Paper 92-7 (October 1992).

process, which uses more standard rules.

99. Importantly, the Boston study also found that, because most loan applicants have some negative attributes, most loan denials will appear legitimate by some objective standard. Accordingly, the study stated, the lending discrimination that occurs is very difficult to document at the institution level, so legal remedies may be largely ineffective. Indeed, Congress had already attempted to address discriminatory lending practices through laws that bar discrimination in lending, such as the Equal Credit Opportunity Act, enacted in 1974 and amended many times since then. Congress, therefore, could reasonably assume, based on the Boston study, and its legislative experience regarding discriminatory lending practices, that minority applicants for licenses issued in spectrum auctions would face substantial (albeit subtle) barriers to obtaining financing. Any legal remedies, even if effective, would, moreover, come too late to ensure that minorities are able to participate in spectrum auctions and obtain licenses.

100. Similar evidence presented in testimony before the House Minority Enterprise Subcommittee on May 20, 1994 indicates that African American business borrowers have difficulty raising capital mainly because they have less equity to invest, they receive fewer loan dollars per dollar of equity investment, and they are less likely to have alternate loan sources, such as affluent family or friends. Assuming two hypothetical college educated, similarly-situated male entrepreneurs, one black, one white, the testimony indicated that the white candidate would have access to $1.85 in bank loans for each dollar of owner equity invested, while the black candidate would have access to only $1.16. According to the testimony, the problems associated with lower incomes and intergenerational wealth, as well as the discriminatory treatment minorities receive from financial institutions, make it much more likely that minorities will be shut out of capital intensive industries, such as telecommunications. This testimony also noted that African American representation in communications is so low that it was not possible to generate meaningful summary statistics on underrepresentation.[69]

101. The inability to access capital is also a major impediment to the successful participation of women in broadband PCS auctions. In enacting the Women's Business Ownership Act in 1988, Congress made findings that women, as a group, are subject to discrimination that adversely affects their ability to raise or secure capital.[70] As AWRT documents, these discriminatory barriers still exist today. Indeed, AWRT reports that while venture capital is an important source of funding for telecommunications companies, women-owned companies received only approximately one percent of the $3 billion invested by institutional venture capitalists in 1993. Citing a 1992 National Women's Business Council report, AWRT further argues that even successful women-owned companies did not overcome these financing obstacles after they had reached a level of funding and profitability adequate for most other businesses.[71]

102. A study prepared in 1993 by the National Foundation for Women Business Owners (NFWBO) further illustrates the barriers faced by women-owned businesses. For example, it finds that women-owned firms are 22 percent more likely to report problems dealing with their banks than are businesses at large. In addition, the NFWBO study finds that the largest single type of short-term financing used by women business owners is credit cards and that over half of women-owned firms use credit cards for such purposes, as compared to 18 percent of all small to medium-sized businesses, which generally use bank loans and vendor credit for short-term credit needs. With regard to long-term financing, the study states that a greater proportion of women-owned firms are turning, or are forced to turn, to private sources, and to a wider variety of sources, to fulfill their needs. Based on these findings, the NFWBO study concludes that removal of financial barriers would encourage stronger growth among women-owned businesses, resulting in much greater growth throughout the economy.[72]

103. If we are to meet the congressional goals of promoting economic opportunity and competition by disseminating licenses among a wide variety of providers, we must find ways to counteract these barriers to entry. Over the years, both Congress and the Commission have tried various methods to enhance access to the broadcast and cable industries by minorities and women. For example, in the late 1960s, the FCC began to promote nondiscriminatory employment policies by broadcast licensees. These equal employment opportunity efforts have taken the form of Commission rules and policies that require licensees not to discriminate, to report hiring and promotion statistics, and to implement affirmative action programs.[73] The Commission also has adopted similar equal employment rules for licensees in the common carrier, public mobile, and international fixed public radio communication services,[74] as well for cable operators.[75] The cable EEO rules were recently revised as part of the implementation of the Cable Act of 1992, and they now apply to cable entities, satellite master antenna television operators serving 50 or more subscribers and any multichannel video programming distributor.[76]

104. A decade after it first addressed discriminatory hiring practices, the Commission began to look into the serious underrepresentation of minorities among owners of broadcast stations. Recognizing that it could play an important role in alleviating this problem through the licensing process, the Commission adopted its tax certificate and distress sale policies in 1978 to encourage minority ownership of broadcast facilities.[77] It noted that full minority participation in the ownership and management of broadcast facilities would result in a more diverse selection of programming and would inevitably enhance the diversity of control of a

[69] Testimony of Dr. Timothy Bates, Visiting Fellow, The Woodrow Wilson Center, before the U.S. House of Representatives Committee on Small Business, Subcommittee on Minority Enterprise, Finance, and Urban Development (House Minority Enterprise Subcommittee), May 20, 1994.

[70] Pub. L. 100–533 (1988). In 1991, Congress enacted the Women's Business Development Act of 1991 to further assist the development of small businesses owned by women. *See* Pub. L. 102–191 (1991).

[71] *See* Letter of AWRT to the Honorable Kweisi Mfume, Chairman, House Minority Enterprise Subcommittee, June 1, 1994.

[72] *See* The National Foundation for Women Business Owners, Financing the Business, A Report on Financial Issues from the 1992 Biennial Membership Survey of Women Business Owners, October 1993.

[73] 47 CFR § 73.2080 (broadcasters must "establish, maintain, and carry out a positive continuing program of specific practices designed to ensure equal opportunity in every aspect of the station's employment policy and practice").

[74] 47 CFR §§ 21.307, 22.307, 23.55.

[75] 47 CFR §§ 76.71–76.79.

[76] *See* 47 U.S.C. § 554. In addition, the Commission has proposed adopting EEO requirements for all CMRS licensees, including PCS licensees. Regulatory Treatment of Mobile Services, Further Notice of Proposed Rule Making, GN Docket 93–252, FCC 94–100, 59 FR 28042, May 31, 1994.

[77] *See* Commission Policy Regarding the Advancement of Minority Ownership in Broadcasting, 92 FCC 2d 849 (1982) (1982 Policy Statement); *see also* Statement of Policy on Minority Ownership of Broadcasting Facilities, 68 FCC 2d 979 (1978) (1978 Policy Statement).

valuable resource, the electromagnetic spectrum.[78]

105. In implementing these ownership policies, the Commission identified lack of access to capital as one of the principal barriers to minority entry. Thus, in 1981, the Commission created the Advisory Committee on Alternative Financing for Minority Opportunities in Telecommunications (the "Rivera Committee") to investigate financing methods and to give recommendations to the FCC on ways to encourage minority ownership of telecommunications facilities.[79] The Rivera Committee confirmed that the shortage of capital is a principal problem facing minorities seeking ownership opportunities and further found that this shortage was due to minority inexperience in obtaining financial institution misconceptions about potential minority borrowers, and marketplace structural problems, such as high interest rates and low broadcast industry earnings growth. Among other things, the Rivera Committee suggested educational and outreach programs and expanding the tax certificate program to nonbroadcast properties such as common carrier and land mobile. In response to this recommendation, the FCC submitted draft legislation to Congress proposing to broaden the scope of the Commission's authority to issue tax certificates in connection with the sale or exchange of any type of telecommunications facilities.[80] On March 24, 1983, The Minority Telecommunications Ownership Tax Act of 1983, H.R. 2331, which incorporated the Commission's proposals, was introduced in the House of Representatives.[81]

106. Congress also took steps to address the problem of minority underrepresentation in communications. In 1982, it mandated the grant of a "significant preference" to minority applicants participating in lotteries for spectrum-based services. 47 U.S.C. § 309(i)(3)(A). And, in 1988 and each fiscal year thereafter, Congress attached a provision to the FCC appropriations legislation, which precluded the Commission from spending any appropriated funds to examine or change its minority broadcast preference policies.[82]

107. These efforts have met with limited success. The record shows that women and minorities have not gained substantial ownership representation in either the broadcast or non-broadcast telecommunications industries. For example, a 1993 report conducted by the National Telecommunications and Information Administration's (NTIA) Minority Telecommunications Development Program shows that, as of August 1993, only 2.7 percent of commercial broadcast stations were owned by minorities. Another study commissioned by the Commerce Department's Minority Business Development Agency in 1991 found that only one half of one percent of the telecommunications firms in the country were minority owned. The study also identified only 15 minority cable operators and 11 minority firms engaged in the delivery of cellular, specialized mobile radio, radio paging or messaging services in the United States.[83] And, according to the last available U.S. Census, only 24 percent of the communications firms in the country were owned by women, and these women-owned firms generated only approximately 8.7 percent of the revenues earned by communications companies.[84] When companies without paid employees are removed from the equation, firms with women owners represent only 14.5 percent of the communications companies in the country.[85] One result of these low numbers is that there are very few minority or women-owned businesses that bring experience or infrastructure to PCS. They thus face an additional barrier relative to many existing service providers.

108. Small businesses also have not become major participants in the telecommunications industry. For instance, one commenter asserts that ten large companies—six Regional Bell Operating Companies (RBOCs), AirTouch (formerly owned by Pacific Telesis), McCaw, GTE and Sprint—control nearly 86 percent of the cellular industry. This commenter further contends that nine of these ten companies control 95 percent of the cellular licenses and population in the 50 BTAs that have one million or more people.[86]

109. Congress directed the Commission to ensure that, together with other designated entities, rural telephone companies have the opportunity to participate in the provision of PCS. Rural areas, because of their more dispersed populations, tend to be less profitable to serve than more densely populated urban areas. Therefore, service to these areas may not be a priority for many PCS licensees. Rural telephone companies, however, are well positioned because of their existing infrastructure to serve these areas profitably. We, therefore, have adopted special provisions to encourage their participation, increasing the likelihood of rapid introduction of service to rural areas.

110. In the new auction law, Congress directed the Commission to remedy this serious imbalance in the participation by certain groups, especially minorities and women. The record indicates that, in the absence of meaningful efforts to assist designated entities, there would be good reason to think that participation by these groups, particularly businesses owned by women and minorities, would continue to be severely limited. Indeed, the auction law itself envisions a process that requires payment of funds to acquire an initial license, unlike existing licensing methods such as comparative hearings or lotteries. It is therefore possible that participation by those with limited access to capital could be further diminished by operation of the statute, absent affirmative provisions to create competitive opportunity for designated entities. The measures we adopt in this *Fifth Report and Order* thus will carry out Congress's directive to provide meaningful opportunities for small

[78] Because of the role of cable television systems in retransmitting broadcast signals, the Commission has also issued tax certificates in connection with sales of cable systems. *See* Statement of Policy on Minority Ownership of CATV Systems, FCC 82-524, released December 22, 1982.

[79] Strategies for Advancing Minority Ownership Opportunities in Telecommunications, The Final Report of the Advisory Committee on Alternative Financing for Minority Opportunities in Telecommunications to the Federal Communications Commission, May 1982 (Rivera Committee Report).

[80] *See* Federal Communications Draft Legislation Revising Section 1071 of the Internal Revenue Code of 1994 (January 17, 1983).

[81] The Minority Telecommunications Ownership Tax Act of 1983, H.R. 2331, 98th Congress, 1st Sess., March 24, 1983.

[82] *See* Continuing Appropriations Act for Fiscal Year 1988, Pub. L. 100-102, 101 Stat. 1329-31; Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act of 1994, Pub. L. 103-121, 107 Stat. 1167.

[83] *See* Testimony of Larry Irving, Assistant Secretary for Communications and Information, U.S. Department of Commerce, before the House Minority Enterprise Subcommittee, May 20, 1994. In his testimony at this same hearing, FCC Chairman Reed Hundt cited some of these statistics and noted that in light of this serious underrepresentation, there remains "a fundamental obligation for both Congress and the FCC to examine new and creative ways to ensure minority opportunity." Testimony of Reed E. Hundt, Chairman, Federal Communications Commission, before the House Minority Enterprise Subcommittee, May 20, 1994.

[84] *See* Women-Owned Businesses, 1987 Economic Censuses, U.S. Department of Commerce, issued August 1990, at 7, 147. The census data includes partnerships, and subchapter S corporations. We have no statistics regarding women representation among owners of larger communications companies.

[85] *Id.*

[86] *Ex parte* filing of DCR Communications, May 31, 1994.

entities, rural telephone companies, and businesses owned by women and minorities to provide broadband PCS services. The rules also are expressly designed to address the funding problems that face these groups and that are their principal barriers to entry.

111. We also intend that designated entities who win licenses have the opportunity to become strong competitors in this service. While the new broadband PCS service presents tremendous opportunities for designated entities to participate in the provision of the next generation of innovative wireless mobile telecommunications services, it is expected to be a highly competitive service, and the estimated costs of acquiring a license and constructing facilities are substantial. In the *Broadband PCS Reconsideration Order*, which was adopted June 9, 1994, we took specific steps to assist designated entities to become viable competitors in the provision of broadband PCS. For example, we modified the PCS spectrum allocation plan by shifting all channels blocks to a contiguous lower segment of the "emerging technologies band" in part to bolster the ability of designated entities to obtain more competitively viable licenses. In addition, we relaxed some of the ownership and attribution rules with respect to cellular operators' participation in PCS to foster investment in designated entity ventures,[87] and we also relaxed the PCS/cellular cross-ownership rule for designated entities with cellular holdings to allow them to further expand their opportunities in broadband PCS.[88] Further, we took steps that will result in lower capital costs for designated entities that obtain PCS licenses, including adoption of a band plan that will reduce the costs of clearing the PCS spectrum of incumbent microwave users as well as relaxing the construction requirements.

112. The measures we establish today to encourage the entry of designated entities also are designed to promote strong, long-term *bona fide* competitors. For example, we have revised the definition of a small business set forth in the *Second Report and Order* to include entities with up to $40 million in gross revenues, and we will allow these small businesses to pool their resources and form consortia to bid in the entrepreneurs' blocks. We also adopt rules that allow entrepreneurial businesses, small businesses, and businesses owned by women and minorities to raise capital by attracting passive equity investors. At the same time, we have designed these rules to ensure that the special provisions adopted for such businesses accrue to the intended beneficiaries.

B. Summary of Special Provisions for Designated Entities

113. As discussed more fully below, many commenters in this proceeding believe that the inability of designated entities to obtain adequate funding has a profoundly adverse effect on the potential for these businesses to bid successfully in auctions against very large, established businesses. Therefore, we take a number of steps in this Order to help address this imbalance.

- We establish two "entrepreneurs' blocks" (frequency blocks C and F) in which large companies (those with $125 million or more in annual gross revenues or $500 million or more in total assets) will be prohibited from bidding.
- Bidding credits will be granted both to small businesses and to businesses owned by women and minorities in the entrepreneurs' blocks to provide them with a better opportunity to compete successfully in broadband PCS auctions.
- Certain winning bidders in frequency blocks C and F will be permitted to pay the license price in installments, and the interest rate and moratorium on principal payments will be adjusted to assist small businesses and women and minority-owned businesses.
- We adopt a tax certificate program for minority and women-owned businesses, which will provide additional assistance in their efforts to attract equity investors.
- Rural telephone companies will be allowed to obtain broadband PCS licenses that are geographically partitioned from larger PCS service areas to provide them more flexibility to serve rural subscribers.[89]
- Bidders in the entrepreneurs' blocks will be required to pay an upfront payment of only $0.015 per MHz per pop, in contrast to the $0.02 per MHz per pop required in the other blocks.

114. The following chart highlights the major provisions adopted for businesses bidding in the entrepreneurs' blocks.[90]

	Bidding credits (percent)	Installment payments	Tax certificates for investors
Entrepreneurial Businesses ($40 MM–$125 MM in revenue and less than $500 MM in total assets).	0	Interest only for 1 year; rate equal to 10-year Treasury note plus 2.5%; (for businesses with revenues greater than $75 MM, available only in top 50 markets).	No.
Small Businesses (less than $40 MM revenues)	10	Interest only for 2 years; rate equal to 10-year Treasury note plus 2.5%.	No.
Businesses Owned by Minorities and/or Women ($40 MM–$125 MM in revenues).	15	Interest only for 3 years; rate equal to 10-year Treasury note.	Yes.
Small Businesses Owned by Minorities and/or Women (less than $40 MM revenues).	25	Interest only for 5 years; rate equal to 10-year Treasury note.	Yes.

[87] Broadband PCS Reconsideration Order at ¶ 127.

[88] *Id.* at ¶ 125.

[89] In a Further Notice of Proposed Rule Making in this docket, we will seek comment on whether a partitioning option for small businesses or businesses owned by women or minorities, as suggested by some of the commenters, may be appropriate. In that Further Notice, we also will seek comment or whether the Commission should impose a restriction on the assignment or transfer of control of partitioned licenses by rural telephone companies or other designated entities for some period of time.

[90] This table is not comprehensive and therefore it does not present all the provisions established for designated entities, especially those available outside the entrepreneurs' blocks.

C. Summary of Eligibility Requirements and Definitions

1. Entrepreneurs' Blocks and Small Business Eligibility

115. The following points summarize the principal rules regarding eligibility to bid in the entrepreneurs' blocks and to qualify as a small business. In addition, they summarize the attribution rules we will use to assess whether an applicant satisfies the various financial thresholds. More precise details are discussed in the subsections that follow.

Financial Caps

- *Entrepreneurs' Blocks:* To bid in the entrepreneurs' blocks, the applicant, including attributable investors and affiliates, must cumulatively have less than $125 million in gross revenues and less than $500 million in total assets. No individual attributable investor or affiliate may have $100 million or more in personal net worth.
- *Small Business:* To qualify for special measures accorded a small business, the applicant, including attributable investors and affiliates, must cumulatively have less than $40 million in gross revenues. No individual attributable investor or affiliate may have $40 million or more in personal net worth.

Attribution Rules

- *Control Group.* The gross revenues, total assets and personal net worth of certain investors are not considered so long as the applicant has a "control group" consisting of one or more individuals or entities that control the applicant, hold at least 25 percent of the equity and, for corporations, at least 50.1 percent of the voting stock.
- The gross revenues, total assets and personal net worth of each member of the control group are counted toward the financial caps.
- *Other Investors.* Where the applicant has a control group, the gross revenues, total assets and personal net worth of any other investor are not considered unless the investor holds 25 percent or more of the applicant's passive equity (which, for corporations, includes as much as 5 percent of the voting stock).
- *Passive Equity.* Passive equity is limited partnership or non-voting stock interests or voting stock interests of 5 percent or less of the issued and outstanding voting stock.
- *Option for Minority or Woman-Owned Applicants.* If the control group (considering entirely of women and/or minorities) owns at least 50.1 percent of the equity and, for corporations, at least 50.1 percent of the voting stock, then the gross revenues, total assets and personal net worth of any other investor are not considered unless the investor holds more than 49.9 percent of the applicant's passive equity (which, for corporations, includes as much as 5 percent of the voting stock).
- *Affiliates.* The gross revenues, assets and personal net worth of outside interests held by the applicant (and the attributable investors in the applicant) are counted toward the financial caps if the applicant (or the attributable investors in the applicant) control or have power to control the outside interests or if the applicant (or the attributable investors in the applicant) is under the control of the outside interests. The financial interests of spouses are also attributed to each other.

2. Definition of Women and/or Minority-Owned Business

116. The points below summarize the two structural options available to firms that wish to qualify for the special provisions adopted for businesses owned by minorities and women. These options will be discussed in more detail in the text that follows.

50.1% Equity Option

If women and/or minority principals control the applicant and own at least:
- 50.1 percent of the equity
- and 50.1 percent of the voting stock, in the case of corporations
- Then any other investor may hold:
- not more than 49.9 percent of the passive equity (which, for corporations, includes as much as 5 percent of the voting stock).

25% Equity Option

If women and/or minority principals control the applicant and own at least:
- 25 percent of the equity
- and 50.1 percent of the voting stock, in the case of corporations
- Then any other investor may hold:
- less than 25 percent of the passive equity (for corporations, any other investor also may hold not more than 5 percent of the voting stock).

117. We also have imposed numerous strict requirements to deter shams and fronts and to prevent abuse of the incentives for designated entities. The Commission intends to enforce vigorously each of these requirements. All licensees in the entrepreneurs' blocks are prohibited from voluntarily assigning or transferring their licenses for three years after grant of the application and for the next two years may assign or transfer licenses only to other entities that satisfy the financial criteria to bid in the entrepreneurs' blocks. Furthermore, a business that seeks to acquire a license from an entity paying in installments during the license period will be required, as a condition of the grant, to pay according to the installment payment terms for which it qualifies, unless they are more favorable in which case the existing terms apply. If the purchaser is not qualified for any installment payment plan, we will require payment of the unpaid balance in full before the sale will be approved. We also adopt rules to ensure that the value of the bidding credit is returned to the government in the event of a transfer of control or assignment of the license to an entity not qualifying for bidding credits or not qualifying for as high a bidding credit as the seller. In addition, we impose a one-year holding period on licenses received through the benefit of a tax certificate. We will also random audits to ensure that designated entities *de facto* and *de jure* control. These steps and our eligibility and affiliation rules will help to ensure that the measures we adopt are utilized only by *bona fide* eligible entities and to deter winning bidders seeking only to make a quick profit on the sale of PCS licenses. Ultimately, we believe that we will best fulfill our statutory mandate by creating powerful incentives for *bona fide* designated entities to attract the capital necessary to compete both in auctions for broadband PCS and in the provision of service, and be requiring a strict holding period to ensure that the public receives the benefit of this diverse ownership.

D. The Entrepreneurs' Blocks

118. As discussed above, because the auction process itself requires additional expenditures of capital to acquire licenses, this new licensing procedure in many respects holds the potential to erect an additional barrier to entry that had not existed even under the Act's previous licensing methods, comparative hearings and lotteries. As reflected in the House Committee Report, Congress was well aware of that possibility and wanted to ensure that competitive bidding should not exclude smaller entities from obtaining licenses.[91] The inability of small businesses and businesses owned by women and minorities to obtain adequate private financing creates a serious imbalance between these companies and large businesses in their prospects for competing successfully in broadband PCS auctions.

119. In addition, commenters contend that, at the outset, a small PCS business and a large local exchange carrier would value a license very differently. DCR

[91] *See* H.R. Rep. No. 103-111 at 255.

Communications, for example, argues that a local telephone company would have much lower costs of construction and operation through equipment volume discounts, existing billing, accounting, order entry and processing, and customer service systems. Furthermore, DCR contends, the telephone company might decide to use its PCS system simply as an adjunct to a cellular system it owns in a nearby market and market wireless handsets that operate in both frequencies. DCR concludes that the telephone company could justify paying the higher value for the license because it has more ready access to capital.[92]

120. This concern is echoed by a number of commenters. NTIA agrees that capital formation is a major barrier to full participation by small and minority-owned firms, asserting that capital-constrained firms are likely to assign lower values to PCS licenses than other bidders and are therefore less likely to obtain licenses in an open bidding market.[93] Another party, Impulse Telecommunications Corporation, states that "giants" can justify huge bids because they have billions of dollars of capital as well as an existing administrative, billing, operating and marketing infrastructure. In addition, Impulse asserts that PCS licenses are likely to hold strategic value for large long distance and local telephone companies, for such purposes as critical wireless access.[94] Similarly, Tri-State Radio Company states that the allocation of substantial amounts of spectrum to services such as broadband PCS has generated extensive industry expectation and speculation. With the financial stakes so high, Tri-State argues that designated entities will have little ability to bid successfully against "communications behemoths with almost unlimited financial resources."[95]

121. We agree that small entities stand little chance of acquiring licenses in these broadband auctions if required to bid against existing large companies, particularly large telephone, cellular and cable television companies. If one or more of these big firms targets a market for strategic reasons, there is almost no likelihood that it could be outbid by a small business. In the Notice, we proposed that one means to address such problems would be to set aside specific spectrum blocks in broadband PCS that would be reserved for bidding purposes to the designated entities.[96] In this Order, we have decided to adopt a modification of this proposal, which should greatly enhance the ability of all designated entities to enter auctions and bid successfully for broadband PCS licenses. Specifically, we establish two entrepreneurs' blocks, C and F, in which eligibility to bid is limited to entities that, together with their affiliates and certain investors, have gross revenues of less than $125 million in each of the last two years and total assets of less than $500 million. In addition, we will prohibit an applicant from bidding in these blocks if any one individual investor in the applicant has $100 million or greater in personal net worth. Together with a reduced upfront payment requirement, we believe this proposal will encourage smaller entities to enter the auctions for broadband PCS licenses and will ensure that "entrepreneurial" businesses are granted nearly half of all the broadband PCS licenses being auctioned.

122. NTIA strongly supports this measure, arguing that it "would be the most direct mechanism for preserving opportunities for small companies in an auction environment." According to NTIA, reserving two entrepreneurs' blocks helps significantly in satisfying the congressional directive that competitive bidding not result in an increase in concentration in the telecommunications industries.[97] Similarly, Columbia PCS contends that establishment of entrepreneurs' blocks "provides a good balance between Congress's clear mandate to provide opportunities for designated entities and avoid undue concentration of PCS licenses on the one hand with the goal of capturing the value of allocated spectrum for the American public on the other."[98]

123. The $125 million gross revenue/ $500 million asset caps have the effect of excluding the large companies that would easily be able to outbid designated entities and frustrate Congress's goal of disseminating licenses among a diversity of licensees. At the same time, this restriction does not exclude many firms that, while not large in comparison with other telecommunications companies, nevertheless are likely to have the financial ability to provide sustained competition for the PCS licensees on the MTA blocks. For example, the $125 million gross revenue figure corresponds roughly to the Commission's definition of a Tier 2, or medium-sized, local exchange carrier,[99] and would include virtually all of the independently owned rural telephone companies. Limiting the personal net worth of any individual investor or affiliate of the applicant to $100 million will prevent a very wealthy individual from leveraging his or her personal assets to allow the applicant to circumvent the size limitations of the entrepreneurs' blocks.

124. As noted previously, many commenters asked us to reserve spectrum blocks for bidding only by designated entities. The entrepreneurs' blocks plan adopted herein is similar in concept to the set-aside proposals set forth by the commenters. Therefore, in determining which of the blocks in each market should constitute the entrepreneurs' blocks, we paid close attention to the concerns of those who had advocated set-asides in the first instance. Although the broadband PCS band plan has changed since the Commission first proposed set-asides in the Notice and parties first submitted their proposals in this docket, the general concerns of these parties about

[92] *Ex parte* filing of DCR Communications, May 31, 1994.

[93] NTIA Comments at 26.

[94] *Ex parte* filing of Impulse Telecommunications Corporation, May 27, 1994.

[95] Tri-State Comments at 11. *See also* comments of NAMTEC (designated entities should not have to compete against "more entrenched parties"), National Rural Telecom Association (the only way small entities can have real opportunity is if they do not have to bid against "extremely 'deep pocket' applicants"), The Small Business PCS Association (it will not be possible for designated entities "to compete in an auction against some of the largest companies and wealthiest individuals in the United States"), JMP (without preferences for designated entities, large telecommunications firms will "monopolize" the auctions), Minority PCS Coalition at 6, Telephone Association of Michigan at 9–10, Iowa Network at 9, AWRT at 8, Telephone Electronics at 7–8, Sloan at 2.

[96] Notice at ¶ 121.

[97] *Ex parte* filing of NTIA, June 21, 1994.

[98] *Ex parte* filing of Columbia PCS, June 2, 1994. Columbia PCS further states that this measure would spur investment in designated entities and increase their ability to compete against one another and others. *Id.*

[99] Local exchange carriers are categorized as Tier 1 and Tier 2 companies by applying the criterion that Sections 32.11(a) and 32.11(e) of the Commission's Rules use to distinguish Class A and Class B companies, respectively. Class A companies are those companies having annual revenues from regulated telecommunications operations of $100 million or more; Class B companies are those companies having annual revenues from regulated telecommunications operations of less than $100 million. The initial classification of a company is determined by its lowest annual operating revenues for the five immediately preceding years. A company's classification is changed when its annual operating revenue exceeds or is under the $100 million mark in each of five consecutive years. The Commission imposes more relaxed regulatory requirements on Tier 2 LECs than on Tier 1 LECs. *See* Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies, 2 FCC Rcd 5770, 5772, 52 FR 35918, Sept. 24, 1987; Commission Requirements for Cost Support Material to be Filed with 1994 Annual Access Tariffs and for Other Cost Support Material, 9 FCC Rcd 1060 n. 3 (Comm. Carr. Bur. 1994); Commission Requirements for Cost Support Material to be Filed with Access Tariffs on March 1, 1985, Public Notice, Mimeo No. 2133 (Comm. Carr. Bur. released Jan. 25, 1985).

the amount of spectrum and geographic territory necessary to compete effectively remain pertinent. Moreover, we adopted the revised broadband PCS band plan in advance of this Order, which afforded interested parties the opportunity to make additional presentations on designated entity incentives in light of the new band plan.

125. A number of commenters approved of the Notice's proposal to set aside one 20 MHz BTA block and one 10 MHz BTA block. The Small Business PCS Association asserted, moreover, that implementation of the set-aside proposal would offer "a major opportunity" for small businesses, that a 20 MHz block is "probably ideal" for development by small entrepreneurs, and that even a 10 MHz block could sustain a viable PCS System.[100] Telepoint makes similar assertions.

126. A considerable number of commenters, however, contended that the Commission's proposal to set aside a 20 MHz block and a 10 MHz block would be inadequate. Telephone Electronics and AWCC asserted, for instance, that a provider operating with only a 10 MHz or 20 MHz license could not offer a full range of PCS services with quality equivalent to the like offerings of a provider operating with a 20 MHz license. Unique and AWCC thus argued that PCS licensees in the set-aside spectrum would consequently be unable to obtain commercial funding on terms as favorable to those available to operators with 30 MHz licenses. Independent Cellular Network maintained that the competitive disadvantages of the proposed set-aside channels, due to their lesser bandwidth, could not be obviated through aggregation, because of the greater transaction costs that would be incurred above those associated with acquisition of a single 30 MHz license.

127. We believe that designating frequency blocks C and F as entrepreneurs' blocks meets the concerns of most of the designated entity commenters. Frequency block C provides 30 MHz of spectrum and, thus, satisfies the concerns of those parties who believe they must have this amount of bandwidth to compete effectively. The MHz block F license, on the other hand, fulfills the needs of other designated entities who argued in favor of small blocks. Moreover, since the C and F blocks are adjacent, they can be aggregated efficiently by one or more licensees. This plan also makes available to eligible bidders in the entrepreneurs' blocks 986 licenses, or slightly under 50 percent of all broadband PCS licenses. Finally, it does not foreclose opportunities for other parties. Bidders ineligible for the entrepreneurs' blocks will have the opportunity to bid on 99 30 MHz MTA licenses throughout the country, as well as 986 10 MHz BTA licenses nationwide.

128. *Five-Year Holding and Limited Transfer Period.* In establishing the entrepreneurs' blocks, we recognize the congressionally mandated objective will not be served if parties take advantage of bidding in these blocks and immediately assign or transfer control of the authorizations to other entities. Such a practice could unjustly enrich the auction winners and would undermine the congressional goal of giving designated entities the opportunity to provide spectrum-based services. Therefore, we will prohibit licensees in the entrepreneurs' blocks from voluntarily assigning or transferring control of their licenses for a period of three years from the date of the license grant.[101] And, for the next two years of the license term, we will permit the licensee to assign or transfer control of its authorization only to an entity that satisfies the entrepreneurs' blocks entry criteria.[102] During this five-year period, licensees will continue to be bound by the financial eligibility requirements, as set forth below.[103] In addition, a transferee or assignee who receives a C or F block license during the five-year period will remain subject to the transfer restrictions for the balance of the holding period.[104] The Commission will conduct random pre and post-auction audits to ensure that applicants receiving preferences are in compliance with the FCC's rules.

129. Our goals are to create significant opportunities for entrepreneurs, small businesses, and businesses owned by minorities and women to compete in auctions for licenses and attract sufficient capital to build-out those licenses and provide service. We recognize the critical need to attract capital, which requires flexibility. We are very concerned, however, that such flexibility not undermine our more fundamental objective, which is to ensure that designated entities retain *de facto* and *de jure* control of their companies at all times. We believe that the five-year holding and limited transfer period, which we have adopted in this Order, will help to promote this objective. Some question remains, however, as to whether a longer holding period (*e.g.*, seven years) would more fully meet this goal.

E. Bidding Credits

130. In the Notice, we indicated that we might use spectrum set-asides for designated entities in the broadband PCS service but did not expressly propose to use bidding credits. For two other services, IVDS and narrowband PCS, however, we did conclude recently that the use of bidding credits in auctions would be an effective tool to ensure that women and minority-owned businesses have opportunities to participate in the provision of those services.[105] On further reflection, and based on the many comments in the record favoring this approach, we believe that bidding credits are necessary to ensure that women and minority-owned businesses and small businesses participate in broadband PCS. Accordingly, we adopt a bidding credit plan for winning bidders in the entrepreneurs' blocks that gives small businesses a 10 percent credit, women and minority-owned businesses a 15 percent credit, and small businesses owned by women and minorities an aggregate credit of 25 percent.

131. At the outset, we note that we are confining the bidding credit option to the entrepreneurs' blocks because, given the extremely capital intensive nature of

[100] The Small Business PCS Association stated that a small business operating in a single BTA service region could effectively compete with large companies operating in larger service areas. This is so, it contended, mainly because PCS providers with large service areas would not realize such great economies of scale as many have supposed and because small firms could counter such advantages by forming buying cooperatives. Comments of Small Business PCS Association at 2–3.

[101] We will consider exceptions to this three-year holding period rule on a case-by-case basis in the event of a judicial order decreeing bankruptcy or a judicial foreclosure if the licensee proposes to assign or transfer its authorization to an entity that meets the financial thresholds for bidding in the entrepreneurs' blocks. In addition, we note that a transfer is considered "involuntary" if it is made pursuant to a court decree requiring the sale or transfer of the licensee's stock or assets. *Paramount Pictures, Inc.*, 43 FCC 453 (1949); *C.f. William Penn Broadcasting*, 16 FCC 2d 1050 (1969).

[102] We note that a licensee assigning its authorization pursuant to this limited transfer period might be subject to the repayment provisions associated with installment payments and bidding credits. *See infra* ¶¶ 134, 141. We also clarify that rural telephone companies receiving partitioned licenses in the entrepreneurs' blocks are subject to this five-year holding and limited transfer period.

[103] *See infra* ¶¶ 156–168. In addition, for purposes of the installment payment and bidding credit provisions set forth below, licensees will continue to be bound by the financial eligibility requirements throughout the term of the license.

[104] For example, if a C-block authorization is assigned to an eligible business in year four of the license term, it will be required to hold that license until the original five-year period expires, subject to the same exceptions that applied to the original licensee.

[105] *See* Third Report and Order, FCC 94–98, 59 FR 26741, May 24, 1994; Fourth Report and Order, 9 FCC Rcd 2330, 59 FR 24947, May 13, 1994.

broadband PCS, we do not think bidding credits in an uninsulated block would have a meaningful effect.[106] Indeed, in *ex parte* presentations to the Commission, many commenters have indicated that, without spectrum set-asides for broadband PCS, bidding credits would not be sufficient to assist designated entities in outbidding very large entities who are likely to bid for licenses in this service. DCR Communications states, for example, that all of the existing large telecommunications carriers can justify must larger payments for licenses than could an individual entrepreneur, regardless of a bidder's credit. Therefore, it believes no entrepreneur will win a bid for any PCS market that is desirable to any of the large companies.[107] Many other commenters echo this concern.[108] Some state that, if bidding credits alone are used, extraordinarily large credits, even on the order of 50 percent or more, would be ineffective.[109] As described above, in order to afford designated entities a realistic opportunity to obtain licenses in the broadband PCS service, we have taken measures to exclude very large businesses from bidding for licenses in the C and F blocks. These measures will enhance the value of the bidding credits for small businesses and businesses owned by minorities and women. In this context, we believe that bidding credits will have a significant effect on the ability of small businesses and businesses owned by women and minorities to participate successfully in auctions for licenses in these blocks.

132. As explained above, the capital access problems faced by small firms and women and minority-owned firms make special provisions like bidding credits appropriate for these designated entities in broadband PCS.[110] In effect, the bidding credit will function as a discount on the bid price a firm will actually have to pay to obtain a license and, thus, will address directly the financing obstacles encountered by these entities. Moreover, as noted previously, women and minorities face discrimination in lending and other barriers to entry not encountered by other firms, including other designated entities. Therefore, as one of the measures designed to counter these increased capital formation difficulties, we will provide them with a slightly higher bidding credit than that granted to small businesses. Thus, women and minorities will receive a 15 percent payment discount that is applied against the amounts they bid on licenses. Absent such measures targeted specifically to women and minorities, it would be virtually impossible to assure that these groups achieve any meaningful measure of opportunity for actual participation in the provision of broadband PCS. Similarly, it is reasonable to assume that small firms owned by women and minorities suffer the problems endemic to both groups and that a cumulative bidding credit of 25 percent is therefore appropriate. We believe that these measures will help women and minorities to attract the capital necessary for obtaining a license and constructing and operating a broadband PCS system, consistent with the intent of Congress.

133. The definition of a minority or women-owned firm and of a small business are set forth below.[111] To receive a 10 percent bidding credit, a small business must satisfy a gross revenue test. As explained more fully below in the small business definition section, a consortium consisting entirely of small businesses also is eligible for a 10 percent bidding credit even if the combined gross revenues of the consortium exceed the small business gross revenues threshold. In addition, a small business that is owned by women and minorities must satisfy the definition of a business owned by minorities and women as well as the small business definition to receive a 25 percent bidding credit. Finally, a consortium of small firms owned by women and/or minorities is eligible for a 25 percent bidding credit, provided that each member of the consortium meets the definition of a small business and a minority and/or women-owned firm.

134. *Unjust Enrichment Applicable to Bidding Credits.* To ensure that bidding credits benefit the parties to whom they are directed, we adopt strict repayment penalties. If, within the original term, a licensee applies to assign or transfer control of a license to an entity that is not eligible for as a high a level of bidding credit, then the difference between the bidding credit obtained by the assigning party and the bidding credit for which the acquiring party would qualify must be paid to the U.S. Treasury as a condition of approval of the transfer. For example, an assignment of a license from a small minority-owned firm to a women-owned firm with revenues greater than $40 million would require repayment of 10 percent of the original bid price (25 percent less 15 percent) to the Treasury. A sale to an entity that would not qualify for bidding credits will entail full payment of the bidding credit as a condition of transfer. Small businesses also will be bound by the financial eligibility rules during the entire license term as set forth below. Thus, if after licensing an investor purchases an "attributable" interest in the business and, as a result, the gross revenues of the firm exceed the $40 million small business cap, this repayment provision will apply.[112] These repayment provisions apply throughout the original term of the license to help promote the long-term holding of licenses by those parties receiving bidding credits.

F. Installment Payments

135. A significant barrier for most businesses small enough to qualify to bid in the entrepreneurs' blocks will be access to adequate private financing to ensure their ability to compete against larger firms in the PCS marketplace.[113] In the *Second Report and Order*, we concluded that installment payments are an effective means to address the inability of small businesses to obtain financing and will enable these entities to compete more effectively for the auctioned spectrum. We also determined that small businesses eligible for installment payments would only be required to pay half of the down payment (10 percent of the winning bid, as opposed to 20 percent) five days after the auction closes, with the remaining 10 percent payment deferred until five days after grant of the license. Finally, we indicated that installment payments should be made available to small

[106] We also are concerned that allowing bidding credits in the MTA blocks would increase substantially the incentive for businesses to engage in shams and fronts.

[107] *Ex parte* filing of DCR, May 31, 1994, at 4–5.

[108] *See ex parte* filings of DigiVox Corporation, May 31, 1994, at 3 (the use of bidding credits to the exclusion of frequency set-asides will not fulfill the objectives of Section 309(j)), Communications International Wireless Corp., May 27, 1994, at 1 (bidding credits alone cannot level the playing field between designated entities and members of the Fortune 100 companies), CWCC, May 27, 1994, at 2 (bidding credits alone cannot level the playing field for designated entities).

[109] *Ex parte* filings of AWCC, May 26, 1994 at 2, Columbia PCS, June 2, 1994 at 2.

[110] Although we did not grant bidding credits to small businesses in the narrowband PCS or IVDS services, we believe that, given the exponentially greater expense likely to be incurred in acquiring broadband PCS licenses and construct the systems, bidding credits are a proper means to ensure that these firms have the opportunity to participate in this service. We note that for narrowband PCS and IVDS, the cost of license acquisition and implementation of service is anticipated to be considerably more modest.

[111] *See infra* ¶¶ 172–192.

[112] *See infra* ¶¶ 158–168, for a discussion of which investor interests are "attributable" for purposes of calculating the gross revenues caps.

[113] *See e.g.*, comments of SBA Chief Counsel of Advocacy at 6, 20–21. NTIA at 27; SBAC Report at 2 (September 15, 1993).

businesses at an interest rate equal to the rate for U.S. Treasury obligations. *See Second Report and Order* at ¶¶ 236–240.

136. In light of the expected substantial capital required to acquire and construct broadband PCS licenses, we conclude that installment payments are an appropriate measure for most businesses that obtain broadband PCS licenses in the entrepreneurs' blocks. By allowing payment in installments, the government is in effect extending credit to licensees, thus reducing the amount of private financing needed prior to and after the auction. Such low cost government financing will promote long-term participation by these businesses, which, because of their smaller size, lack access to sufficient capital to compete effectively with larger PCS licensees. Under the rules we adopt today, installment payments are available to small entities that do not technically qualify as small businesses for purposes of other measures we have adopted, such as bidding credits. We believe, however, that, given the enormous costs of broadband PCS and the likelihood of very large participants in the other blocks, this option is fully consistent with the congressional intent in enacting Section 309(j)(4)(A) to avoid a competitive bidding program that has the effect of favoring incumbent providers of other communications services, with established revenue streams, over smaller entities.[114]

137. Under the plan we adopt here, all licensees that satisfy the gross revenues, total assets and personal net worth criteria to bid in the entrepreneurs' blocks will be allowed to pay in installments for licenses granted in those blocks in the 50 largest BTAs. In the smaller BTAs, however, only businesses owned by women and minorities and those licensees with less than $75 million in gross revenues will be able to use installment payments.[115] This distinction is based on the expected lower costs to acquire licenses and construct systems in the smaller BTAs. Thus, with the exception of companies owned by women or minorities, which face additional problems accessing capital, we do not think that a firm with gross revenues exceeding $75 million will require government financing to be competitive in the small BTAs.[116]

138. The installment payment option will enable qualified businesses to pay their winning bid over time. These businesses must make the applicable upfront payment in full before the auction, but are required to make a post-auction down payment equaling only ten percent of their winning bids, half of which will be due five business days after the auction closes. Payment of the other half of the down payment will be deferred until five business days after the license is granted. In general, the remaining 90 percent of the auction price will be paid in installments with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. Under this general rule, only payments of interest will be due for the first year with principal and interest payments amortized over the remaining nine years of the license. Timely payment of all installments will be a condition of the license grant and failure to make sure timely payment will be grounds for revocation of the license.[117]

139. *Enhanced Installment Payments.* As explained previously, small businesses and businesses owned by minorities and women face capital access difficulties not encountered by other firms and, thus, require special measures to ensure their opportunity to participate in broadband PCS. Accordingly, we will provide an "enhanced" installment payment plan for these entities. Pursuant to this enhanced installment payment plan, small businesses (as defined below) who win licenses in the entrepreneurs' blocks will be required to pay interest only for the first two years of the license term at the same interest rate as set forth in the general rule. Businesses owned by women and/or minorities will be able to make interest-only payments for three years. Interest will accrue at the Treasury note rate without the additional 2.5 percent.[118] And, finally, businesses that are both small and owned by women and/or minorities will be required to pay only interest for five years. Interest will accrue at the Treasury note rate.

140. These enhanced installment payments are narrowly tailored to the needs of the various designated entities, as reflected in the record in this proceeding. We believe that varying the moratorium on principal in the early years of the loan and varying the interest rate based on these needs will allow small businesses and companies owned by women and/or minorities to bid higher in auctions, thereby increasing their changes for obtaining licenses. In addition, it will allow them to concentrate their resources on infrastructure build-out and, therefore, it will increase the likelihood that they become viable PCS competitors.

141. *Unjust Enrichment Applicable to Installment Payments.* To ensure that large businesses do not become the unintended beneficiaries of measures meant for smaller firms, we will use the unjust enrichment provisions adopted in the *Second Report and Order* applicable to installment payments. Specifically, if a licensee that was awarded installment payments seeks to assign or transfer control of its license to an entity not meeting the applicable eligibility standards set out above during the term of the license, we will require payment of the remaining principal and any interest accrued through the date of assignment as a condition of the license assignment or transfer. *See Second Report and Order* at ¶ 263; 47 CFR 1.2111(c). Moreover, if an entity seeks to assign or transfer control of a license to an entity that does not qualify for as favorable an installment payment plan, the installment payment plan, if any, for which the acquiring entity qualifies will become effective immediately upon transfer. Thus, a higher interest rate and earlier payment of principal may begin to be applied. For example, a transfer of a license in the fourth year after license grant from a small minority-owned firm to a small non-minority owned firm would require that the firm begin principal payments and the balance would begin accruing interest at a rate 2.5 percent above the rate that had been in effect.[119] Finally, if an investor

[114] *See* H.R. Rep. No. 103–111 at 255 (Commission has the authority to design alternative payment schedules in order that the auction process does not inadvertently favor only those with "deep pockets" over new or small companies).

[115] We will apply the same $500 million total assets and $100 million personal net worth standards for purposes of determining eligibility for installment payments in all BTAs. The attribution rules set forth with regard to eligibility to bid in the entrepreneurs' blocks also will apply in all BTAs. *See infra* ¶¶ 158–168.

[116] We note that a consortium of small businesses is eligible for installment payments in any market so long as each member of the consortium satisfies the definition of a small business, as set forth in Section VII.J.2, *infra*.

[117] As described in the Second Report and Order, the Commission may, on a case-by-case basis, permit a three to six month grace period within which a licensee may seek a restructuring of the payment plan.

[118] To be eligible for these "enhanced" installment payments, a firm must satisfy either of the two alternative definitions of a women or minority-owned business, as set forth in ¶¶ 181–192, *infra*, as well as the applicable financial caps.

[119] We recognize that because of the five-year holding and limited transfer requirements in the entrepreneurs' blocks, these unjust enrichment provisions have limited applicability during the first five years of the license term. Nevertheless, there are some situations in which licensees are permitted to assign or transfer their licenses during this period and the provisions would then apply if the buyer would not have been qualified for installment payments or as favorable an installment payment plan. Furthermore, the unjust enrichment

subsequently purchases an "attributable" interest in the businesses and, as a result, the gross revenues or total assets of the business exceed the applicable financial caps, this unjust enrichment provision will also apply.[120]

G. Tax Certificates

142. Congress instructed the Commission to consider the use of tax certificates to help ensure designated entity participation in spectrum-based services. *See* 47 U.S.C. § 309(j)(4)(D). In the *Second Report and Order* we observed that tax certificates could be useful as a means of attracting investors to designated entity enterprises and to encourage licensees to assign or transfer control of licenses to designated entities in post-auction transactions. We stated further that we would examine the feasibility of using this measure in subsequent service-specific auction rules. *Second Report and Order* at ¶ 251.

143. We believe that tax certificates, which allow the recipients to defer capital gains taxes made on sales, are an appropriate tool to assist women and minority-owned businesses to attract start-up capital from non-controlling investors in broadband PCS. As explained above, due to discrimination in private lending markets and other factors, these designated entities face added obstacles in accessing capital. Therefore, in order to ensure that such businesses have a meaningful opportunity to participate in auctions, it is necessary to adopt measures to encourage investment in minority and woman-owned companies. Moreover, because of the severe underrepresentation of women and minorities in telecommunications, we believe that it is appropriate to give PCS licensees the incentive, through the grant of tax certificates, to assign or transfer their authorizations to such entities in post-auction sales. This measure will provide added assurance that minority and women-owned entities have the opportunity to participate in broadband PCS services, as mandated by Congress. Accordingly, we will issue tax certificates to non-controlling initial investors in minority and women-owned broadband PCS applicants (in any frequency block), upon the sale of their non-controlling interests. We will also issue tax certificates to broadband PCS licensees (in any frequency block) who assign or transfer control of their licenses to minority and women-owned entities.

144. We have used tax certificates over the years to encourage broadcast licensees and cable television operators to transfer their stations and systems to minority buyers.[121] We also have granted tax certificates to shareholders in minority-controlled broadcast or cable entities who sell their shares, when such interests were acquired to assist in the financing of the acquisition of the facility.[122] These broadcast and cable tax certificates are issued pursuant to the Internal Revenue Code, 26 U.S.C. § 1071. While Congress' goal in authorizing tax certificates under Section 309(j)(4)(D) of the Act is somewhat different, and focuses on ensuring the opportunity for designated entities to participate in auctions and spectrum-based services, we think that tax certificates will be equally valuable in the broadband PCS context. Issuance of tax certificates to investors in minority and women-owned businesses and licensees that sell to minorities and women will augment the other measures we adopt today to encourage minorities and women to participate in broadband PCS and will increase the ability of these entities to access financing for that purpose.

145. In implementing this program, we will borrow from our existing tax certificate program and grant tax certificates, upon request, that will enable the licensees and investors meeting the criteria outlined here to defer the gain realized upon a sale by: (1) Treating it as an involuntary conversion under 26 U.S.C. § 1033, with the recognition of gain avoided by the acquisition of qualified replacement property; or (2) electing to reduce the basis of certain depreciable property; or both. Tax certificates will be available to initial investors in minority and woman-owned businesses who provide "start-up" financing, which allows these businesses to acquire licenses at auction or in the post-auction market, and those investors who purchase interests within the first year after license issuance, which allows for the stabilization of the designated entities' capital base. The definition of a minority or women-owned entity is set forth below[123] and, with regard to our investor tax certificate policy, the entity in which the investment is made must satisfy that definition at the time of the original investment as well as after the investor's shares are sold. For post-auction market sales, tax certificates will be issued only to licensees who sell to entities that meet that definition. Tax certificates will be granted only upon completion of the sale, although parties may request a declaratory ruling from the Commission regarding the tax certificate consequences of prospective transactions.

146. *One-Year Holding Period.* As with our other tax certificate policies, we are concerned about avoiding "sham" arrangements to obtain tax certificates and, pursuant to Section 309(j)(4)(E), thus adopt measures to prevent abuses. As in our existing tax certificate program,[124] we will impose a one-year holding requirement on the transfer of control or assignment of broadband PCS licenses by women and minority-owned businesses who obtained such licenses through the benefit of tax certificates. We believe that the rapid resale of such licenses at a profit would subvert our goal of ensuring the opportunity to participate by minority or woman-owned businesses. If the buyer itself is a women or minority-owned business, however, our objectives still will be satisfied. Thus, as an exception to the holding requirement, we will permit the assignment or transfer of control of licenses during this period to other qualified minority and women-owned businesses. We note, however, that the assignee or transferee who receives this license before the end of the original one-year holding period will also be subject to a one-year holding requirement, from the date of consummation of the assignment or transfer.

147. Finally, in the *Broadband PCS Reconsideration Order*, we indicated that we would address in this proceeding proposals for issuing tax certificates to cellular operators who divest their cellular holdings in order to come into compliance with our rules governing cellular operators' participation in broadband PCS. Several commenters argued that tax certificates should be issued to all such companies who divest their holdings.[125] To accomplish the directive in Section 309(j)(4)(D) that minority groups and women are given the opportunity to

provisions are applicable for the full ten-year license term.

[120] *See infra* ¶¶ 158–168, for a discussion of which investor interests are "attributable" for purposes of calculating the gross revenues and total assets thresholds.

[121] *See* 1982 Policy Statement; 1978 Policy Statement. We have also employed tax certificates as a means of encouraging fixed microwave operators to relocate from spectrum allocated to emerging technologies. *See* Third Report and Order and Memorandum Opinion and Order, ET Docket No. 92–9, 8 FCC Rcd 6589, 58 FR 46547, Sept. 2, 1993.

[122] *See* 1982 Policy Statement, 92 FCC 2d at 855–58.

[123] *See infra* ¶¶ 181–192.

[124] *See* Amendment of Section 73.3597 of the Commission's Rules, Memorandum Opinion and Order, 99 FCC 2d 971, 974 (1985).

[125] *See, e.g.*, Petitions for Reconsideration of GTE Service Corporation and Comcast Corporation of Second Report and Order in GEN Docket 90–314.

participate in the provision of spectrum-based services, we have decided to issue tax certificates to such cellular companies so long as their cellular interests are divested to businesses owned by minorities and/or women, as defined in this order. In this manner, we can further implement Congress's goal to facilitate the participation of minorities and women in spectrum-based services. We will also impose a one-year holding period requirement on the assignment or transfer of control of cellular licenses obtained by women and minority-owned businesses through the benefit of this tax certificate policy.

H. Provisions for Rural Telephone Companies

148. After the release of the *Second Report and Order*, rural telephone companies made numerous *ex parte* presentations concerning how we can best ensure that rural areas are provided broadband PCS. In addition, we have received several petitions for reconsideration of the *Second Report and Order* that address our definition of rural telephone companies in the generic auction rules. In this Order, we address the treatment of rural telephone companies for purposes of competitive bidding for broadband PCS licenses and address below some of the issues raised in petitions for reconsideration of the *Second Report and Order* concerning the definition of these entities.

149. In the *Broadband PCS Reconsideration Order*, we adopted an important measure that will help rural telephone companies become viable providers of PCS services. In response to numerous requests from rural telephone company interests, we increased from 20 percent to 40 percent the cellular attribution threshold for rural telephone companies with non-controlling cellular interests in their areas. *See Broadband PCS Reconsideration Order* at ¶ 125. This action increases the number of rural telephone companies that will be eligible to hold PCS licenses. In taking this action, we recognized that their existing infrastructure makes rural telephone companies well suited to introduce PCS services rapidly into their service areas and adjacent areas. Thus, this action will help speed service to rural areas, which tend to be less profitable to serve for companies without existing infrastructure than more densely populated urban areas.

150. We suggested in the *Second Report and Order* that allowing broadband PCS licenses to be geographically partitioned may be a means to permit rural telephone companies to hold licenses to provide service in their telephone service areas.[126] Many rural telephone companies proposed some form of partitioning in their comments, arguing that if they were required to bid on entire BTA or MTA licenses to obtain licenses covering their wireline service areas, they would be effectively barred from entering the broadband PCS industry. They contend that under a partitioning plan, they would be able to serve areas in which they already provide service, while the remainder of the PCS service area could be served by other providers. Such a plan, they argue, would encourage rural telephone companies to take advantage of existing infrastructure in providing PCS services, thereby speeding service to rural areas.[127] We believe that these proposals have merit, and therefore we now adopt a license partitioning system to provide these designated entities the enhanced opportunity to participate in the provision of broadband PCS and to deploy broadband PCS in their rural services areas rapidly.

151. Our partitioning system will allow rural telephone companies to obtain broadband PCS licenses that are geographically partitioned from larger PCS service areas. These companies will be permitted to acquire partitioned broadband PCS licenses in either of two ways in any frequency blocks: (1) They may form bidding consortia consisting entirely of rural telephone companies to participate in auctions, and then partition the licenses won among consortia participants, and (2) they may acquire partitioned broadband PCS licenses from other licensees through private negotiation and agreement either before or after the auction. Each rural telephone company member of a consortium will, following the auction, be required to file a long-form application for its respective, mutually agreed-upon geographic area. If rural telephone company consortia are formed to bid on licenses in the entrepreneurs' blocks, the eligibility rules for those blocks will apply (*i.e.*, the cumulative gross revenues and assets of the consortium members may not exceed the financial caps for eligibility in these blocks).[128] We will require that partitioned areas conform to established geopolitical boundaries (such as county lines) and that each area include all portions of the wireline service area of the rural telephone company applicant that lies within the PCS service area. In addition, if a rural telephone company receives a partitioned license post-auction from another PCS licensee, the partitioned area must be reasonably related to the rural telephone company's wireline service area that lies within the PCS service area.[129] We recognize that rural telephone companies will require some flexibility in fashioning the areas in which they will receive partitioned licenses, so we do not adopt a strict rule concerning the reasonableness of the partitioned area. Generally, we will presume as reasonable a partitioned area that contains no more than twice the population of that portion of a rural telephone company's wireline service area that lies within the PCS service area. Each licensee in each partitioned area will be responsible for meeting the build-out requirements in its area.

152. Allowing partitioning of rural areas served by rural telephone companies provides a viable opportunity for many of these designated entities who desire to offer PCS to their customers as a complement to their local telephone services. For example, rural telephone companies who cannot afford or do not desire to bid for or construct PCS systems for an entire BTA can thus acquire licenses in areas they wish to serve or form bidding consortia and partition the entire BTA among themselves. We believe that rural partitioning is an efficient method of getting a license in the hands of an entity that will provide rapid service to rural areas.

153. We have decided not to adopt any other auction-related measures specifically for rural telephone companies in this Order. We believe that the partitioning plan we are adopting will provide rural telephone companies with substantial capabilities to acquire licenses to provide broadband

[126] *See* Second Report and Order at ¶ 243, n. 186. We note that although we stated in n. 186 that we would consider partitioning for rural telephone companies in the reconsideration of the broadband PCS service rules, we have concluded that this issue should be addressed along with other issues concerning designated entities. *See* Broadband PCS Reconsideration Order at ¶ 83, n. 113. In our deliberations on this issue, we incorporate into this proceeding the record developed in GEN Docket No. 90–314.

[127] *See, e.g.*, comments of GVNW at 2–4, Rural Cellular Association at 16, U.S. Intelco at 16.

[128] As discussed below, we will permit a consortium consisting entirely of small businesses to exceed the entrepreneurs' blocks financial thresholds. *See infra* ¶¶ 179–180. Therefore, if each member of a consortium of rural telephone companies also satisfies the definition of a small business, we will allow the consortium to bid in the entrepreneurs' blocks even if it exceeds the gross revenues and total assets caps.

[129] This provision will not apply when rural telephone companies form consortia only among themselves and then partition the license area. In this circumstance, one or more partitioned areas may have to be larger in order for the entire PCS service area to be served.

PCS in their rural telephone service areas, consistent with our statutory mandate. In addition, our eligibility criteria for bidding in the entrepreneurs' blocks, discussed below, will permit virtually all telephone companies whose service areas are predominantly rural to bid on licenses in frequency blocks C and F without competition from the large telephone companies and other deep-pocketed bidders. Thus, virtually all rural telephone companies will be able to bid for broadband PCS licenses and defer payment in accordance with the installment payment plans we are adopting for the entrepreneurs' blocks. We also note that if a rural telephone company meets the definition of a small business or a business owned by minorities and/or women, it would enjoy a bidding credit and "enhanced" installment payments applicable to those groups when bidding on licenses in these blocks. We do not think that any other measures are necessary in order to satisfy the statute's directive that we ensure that rural telephone companies have the opportunity to participate in the provision of spectrum-based services, and to satisfy our goals to ensure that PCS is provided to all areas of the country including rural areas.

I. Upfront Payments

154. Upfront payment requirements are designed to ensure that bidders are qualified and serious and to provide the Commission with a source of funds in the event that it becomes necessary to assess default or bid withdrawal penalties.[130] The upfront payment ensures that bids during the course of the auction are *bona fide* and convey information about the value of the underlying licenses. Our standard upfront payment for broadband PCS is $0.02 per MHz per pop, which is equivalent to roughly six percent of the license value, based on an estimate in a Congressional Budget Office report of the total value of the auctionable spectrum.[131] A number of commenters assert that the Commission could enhance the opportunity of designated entities to participate in competitive bidding by reducing the required upfront payment for those applicants.[132] We agree that the $0.02 per MHz per pop upfront payment requirement might impose a barrier for smaller entities wishing to participate in the auctions. Moreover, we note that most bidders in the entrepreneurs' blocks will be entitled to pay for their licenses in installments, which requires a down payment of only five percent of the winning bid. We are concerned that requiring an upfront payment that may be larger than the down payment that the winning bidder is required to tender could discourage auction participation.

155. For these reasons, we will reduce the upfront payment requirement to $0.015 per MHz per pop for bidders in the entrepreneurs' blocks. This 25 percent discount should facilitate auction participation by capital-constrained companies and permit them to conserve resources for infrastructure development after winning a license Moreover, since the upfront payment is still substantial, ranging from slightly below $20,000 for a 30 MHz license in the smallest BTAs to more than $10 million for the New York BTA, insincere bidding will be discouraged and the Commission will have access to funds if it must collect default or bid withdrawal penalty payments.

J. Definitions and Eligibility

1. Eligibility to Bid in the Entrepreneurs' Blocks

156. As noted previously, eligibility to bid in the two entrepreneurs' blocks, C and F, is limited to companies that, together with their affiliates and investors, had gross revenues of less than $125 million in each of the last two years and have total assets of less than $500 million at the time their short form applications are filed. In addition, we will prohibit an applicant from bidding in these blocks if any one individual investor or principal in the applicant has $100 million or greater in personal net worth at the short form application filing date.

157. In determining whether an applicant satisfies these financial thresholds, we will count the gross revenues and total assets of the applicant as well as those of its investors with "attributable" interests. The subsection that follows discusses what interests are attributable for these purposes. In addition, it sets forth exceptions to these attribution rules for minority and women-owned applicants and for publicly-traded companies.

a. Attribution Rules for the Entrepreneurs' Blocks

158. *Qualified "Entrepreneurs".* As a general rule, the gross revenues and total assets of all investors in, and affiliates of, an applicant are counted on a cumulative, fully-diluted basis for purposes of determining whether the $125 million/$500 million thresholds have been exceeded, and on an individual basis regarding the $100 personal net worth standard.[133] There are two exceptions to this rule, however. First, applicants that meet the definition of a small business may, as discussed below, form consortia of small businesses that, on an aggregate basis, exceed the gross revenue/total asset caps. Second, the gross revenues, total assets, personal net worth, and affiliations of any investor in the applicant are not considered so long as the investor holds less than 25 percent of the applicant's passive equity. For corporations, we shall use the term passive equity investors to mean investors who hold only non-voting stock or *de minimis* amounts of voting stock that include no more than five percent of the voting interests. Where different classes of stock are held, however, the total amount of equity must still be less than 25 percent to meet this requirement. For partnerships, the term means limited partnership interests that do not have the power to exercise control of the entity.[134] The passive investor exception will be available, however, only so long as the applicant remains under the control of one or more entities or individuals (defined as the "control group") and the control group holds at least 25 percent of the applicant's equity and, in the case of corporate applicants, at least 50.1 percent of the voting stock.[135] In the case of partnership applicants, the control group must hold all the general partnership interests. Winning bidders are required to identify on their long-form applications the identity of the members of this control group and the means of ensuring control (such as a voting trust agreement). The gross revenues, total assets and personal net worth (if applicable) of each member of the control group and each member's affiliates will be counted toward the $125 million gross revenues/$500 million total assets thresholds or the individual $100 million personal net worth standard, regardless of the size of

[130] Second Report and Order, ¶¶ 169–80.

[131] *Id.* at ¶ 177.

[132] *See e.g.*, comments of AWCC at 31–32, Minnesota Equal Access at 2, NAMTEC at 20, Rural Cellular Corp. at 2, U.S. Intelco at 22–23.

[133] By "fully-diluted," we mean the agreements such as stock options, warrants and convertible debentures will generally be considered to have a present effect and will be treated as if the rights thereunder already have been fully exercised.

[134] Applicants must be prepared to demonstrate that the limited partners do not have influence over the affairs of the applicant that is inconsistent with their roles as passive investors. For purposes of our rules, we presume that any general partner has the power to control a partnership. Therefore, each general partner in a partnership will be considered part of the partnership's control group.

[135] So long as the applicant remains under the *de jure* and *de facto* control of the control group, we shall not bar passive investors from entering into management agreements with applicants.

the member's total interest in the applicant.

159. The attribution levels we have selected here are intended to balance the competing considerations that apply in this particular context and may differ from those we have used in other circumstances. As a general matter, the 25 percent limitation on equity investment interests will serve as a safeguard that the very large entities who are excluded from bidding in these blocks do not, through their investments in qualified firms, circumvent the gross revenue/total asset caps. At the same time, it will afford qualified bidders a reasonable measure of flexibility in obtaining needed financing from other entities, while ensuring that such entities do not acquire controlling interests in the eligible bidders.[136] Similarly, the five percent threshold for attributing revenues of investors with voting stock in corporate applicants is designed to keep ineligible parties from exerting undue control over eligible firms.[137] For all of these reasons, we also will attribute the gross revenues and total assets of entities, or the personal net worth of individuals, that otherwise constitute "affiliates" of the applicant.[138]

160. *Qualified Woman and Minority-Owned "Entrepreneurs".* As discussed above, the record demonstrates that women and minorities have especially acute problems in obtaining financing, due in part to discriminatory lending practices by private financial institutions. To address these special problems and to afford women and minority-owned businesses more flexibility in attracting financing, it is necessary to provide these entities with an alternative, somewhat more relaxed option regarding the attribution of revenues of passive investors. Under this alternative standard, we will not attribute to the applicant the gross revenues, assets, or net worth of any single investor in a minority or woman-owned applicant unless it holds more than 49.9 percent of the passive equity (which is defined to include as much as five percent of a corporation's voting stock). To guard against abuses, however, the control group of applicants choosing this option would have to own at least 50.1 percent of the applicant's equity, as well as retain control and hold at least 50.1 percent of the voting stock.[139] As discussed above with regard to general eligibility to bid in the entrepreneurs' blocks, winning bidders must identify on their long-form applications a control group (this time consisting entirely of minorities and/or women or entities 100 percent owned and controlled by minorities and/or women) and the gross revenues and net worth of each member of the control group and each member's affiliates will be counted toward the $125 million gross revenue/$500 million total asset thresholds or the individual $100 million personal net worth limitation, regardless of the size of the member's total interest in the applicant.

161. Relaxing the attribution standard somewhat in determining eligibility of women and minority-owned companies to bid for licenses on frequency blocks C and F directly addresses what most commenters have stated to be the biggest obstacle to entry for these designated entities: obtaining adequate financing. By this measure, women and minorities who are eligible to bid in these blocks (*i.e.*, who otherwise meet the $125 million gross revenues/$500 million total asset standard) will be required to maintain control of their companies and, at the same time, will have flexibility to attract significant infusions of capital from a single investor. The requirement that the minority and women principals hold 50.1 percent of the company's equity mitigates substantially the danger that a well-capitalized investor with a substantial ownership stake will be able to assume *de facto* control of the applicant. Because this step gives large companies, who are otherwise ineligible to bid in the entrepreneurs' blocks, a significant incentive to "partner" with minority and women-owned firms, it will enhance the likelihood that these designated entities will be both successful in the auctions and become viable, long-term competitors in the PCS industry.

162. Of course, women and minority-owned firms, like any other applicant for a C or F block license, may sell a larger portion of their companies' equity, provided that they also abide by the general eligibility requirements to bid in the entrepreneurs' blocks. Specifically, the gross revenues, total assets and net worth of all investors holding 25 percent or more of the company's passive equity (as defined to include 5 percent or more of the voting stock) will be attributed toward the $125 million/$500 million caps or the $100 million personal net worth standard. In this event, the control group will be required to hold at least 25 percent of the company's equity and 50.1 percent of its voting stock.

163. *Qualified Publicly-Traded "Entrepreneurs".* We also believe that these attribution rules may impose a particular hardship on publicly traded companies, which have little control over the ownership of their stock, and whose voting stock typically is widely held. Therefore, for purposes of determining eligibility to bid in the entrepreneurs' blocks, we adopt an exception from these rules for publicly traded companies.[140] Specifically, we will not attribute the gross revenues or total assets of a shareholder in a publicly traded company that owns up to 25 percent of the corporation's equity, even if that equity is represented by up to 15 percent of the voting stock. To take advantage of this exception, however, the eligible control group of the applicant still must control the corporation, hold at least 50.1 percent of the voting stock, and at least 25 percent of the company's equity.[141]

164. *De Facto Control Issues.* We shall codify in our rules a provision explaining more explicitly the term "control," so that applicants will have clear guidance concerning the requirement that a control group maintains *de facto* as well as *de jure* control of the firms that are eligible for special treatment under the rules for broadband PCS. For this purpose, we shall borrow from certain SBA rules that are used to determine when a firm should be deemed an affiliate of a small

[136] Several commenters have suggested that we establish an attribution threshold for investors in a broadband PCS applicant. *See, e.g., ex parte* filings of Columbia PCS, June 2, 1994 (20 percent threshold), and Impulse Telecommunications Corporation, May 27, 1994 (10 percent threshold).

[137] In the event that the five percent voting stock limitation proves to be overly restrictive, we may consider whether a higher threshold (*e.g.*, 15 percent) would be sufficient to meet our concerns about undue control from large investors.

[138] The definition of an "affiliate" is set forth in subsection 5, *infra*.

[139] As noted previously, the control group of a partnership applicant must hold all of the general partnership interests.

[140] "Publicly-traded company" shall mean a business entity organized under the laws of the United States whose shares, debt or other ownership interests are traded on an organized securities exchange within the United States.

[141] We note that this exception for publicly held companies is only applicable for purposes of assessing eligibility to bid in the entrepreneurs' blocks and for the general installment payment option. In the event that a publicly traded company can demonstrate that the 15 percent threshold would impose a serious hardship, the Commission would entertain a request to raise the threshold in individual cases. Companies seeking such relief must also demonstrate that raising the threshold would not contravene the Commission's control objectives, as described in this Order. We do not believe, however, that publicly traded corporations with individual shareholders owning up to 15 percent active equity require additional special provisions such as bidding credits, "enhanced" installment payments, or tax certificates to overcome capital access problems. Thus, we will not apply this exception with regard to the small business definition or the definition of a woman or minority-owned business.

business.[142] These SBA rules, which are codified in 13 CFR 121.401, provide several specific examples of instances in which an entity might have control of a firm even though the entity has less than 50 percent of the voting stock of a concern, and thus provide a useful model for our rules. Through reference to circumstances such as those described in the SBA rules, our rules will expressly alert designated entities that control of the applicant through ownership of 50.1 percent of the firm's voting interests may be insufficient to ensure *de facto* control of the applicant if, for example, the voting stock of the eligible control group is widely dispersed. In those and other circumstances, ownership of 50.1 percent of the voting stock may be insufficient to assure control of the applicant. Of course, apart from these structural issues relative to control, eligible entities must not, during the license term, abandon control of their licenses through any other mechanism. As we stated in the *Second Report and Order*, designated entities must be prepared to demonstrate that they are in control of the enterprise.[143]

165. *Financial Benefits.* To ensure that the control group has a substantial financial stake in the venture, we shall adopt certain additional requirements, also borrowed from SBA rules. As noted previously, we shall require that at least 50.1 percent of each class of voting stock and at least 25 percent (or 50.1 percent for the alternative option for minority and women-owned businesses) of the aggregate of all outstanding shares of stock to be unconditionally owned by the control group members. In addition, 50.1 percent of the annual distribution of dividends paid on the voting stock of a corporate applicant concern must be paid to these members. Also, in the event stock is sold, the control group members must be entitled to receive 100 percent of the value of each share of stock in his or her possession. Similarly, in the event of dissolution or liquidation of the corporation, the control group members must be entitled to receive at least 25 percent (or 50.1 percent, as the case may be) of the retained earnings of the concern and 100 percent of the value of each share of the stock in his or her possession, subject, of course, to any applicable laws requiring that debt be paid before distribution of equity.

166. Partnerships and other non-corporate entities will be subject to similar requirements. Indicia of ownership that we will consider in non-corporate cases include (but are not limited to) (a) the right to share in the profits and losses, and receive assets or liabilities upon liquidation, of the enterprise *pro rata* in relationship to the designated entity's ownership percentage and (b) the absence of opportunities to dilute the interest of the designated entity (through capital calls or otherwise) in the venture. As with corporations, our concern is ensuring that the economic opportunities and benefits provided through these rules flow to designated entities, as Congress directed.

167. *Application of the Five-Year Holding Rule.* Finally, we explain how these attribution rules apply with regard to the five-year holding and limited transfer period for C and F block licensees. During this five-year period, a C or F block licensee must not sell more than 25 percent of its passive equity to a single investor if the resulting attribution of that investor's gross revenues or total assets would bring the company over the $125 million gross revenues/$500 million total assets thresholds, or if that investor's personal net worth exceeds the $100 million personal net worth cap. Similarly, while individual members of the control group may change (if it would not result in a transfer of control of the company), the control group must maintain control and at least 25 percent of the equity and 50.1 percent of the voting stock.[144] A company will be permitted to grow beyond these gross revenues/total assets caps, however, through equity investment by non-attributable (i.e. passive) investors, debt financing, revenue from operations, business development or expanded service.[145]

168. *Abuses.* As stated above, we intend by these attribution rules to ensure that bidders and recipients of these licenses in the entrepreneurs' blocks are *bona fide* in their eligibility, and we intend to conduct random audits both before the auctions and during the 10-year initial license period to ensure that our rules are complied with in letter and spirit. If we find that large firms or individuals exceeding our personal net worth caps are able to assume control of licensees in the entrepreneurs' blocks or otherwise circumvent our rules, we will not hesitate to force divestiture of such improper interests or, in appropriate cases, issue forfeitures or revoke licenses. In this regard, we reiterate that it is our intent, and the intent of Congress, that women, minorities and small businesses be given an opportunity to participate in broadband PCS services, not merely as fronts for other entities, but as active entrepreneurs.

b. Limit on Licenses Awarded in Entrepreneurs' Blocks

169. The special provisions which we adopt for designated entities are based, in part, on our mandate to fulfill the congressional goal that we disseminate licenses among a wide variety of applicants. 47 U.S.C. § 309(j)(3)(B). Therefore, in adopting the financial assistance measures set forth in this Report and Order, we are concerned about the possibility, even if remote, that a few bidders will win a very large number of the licenses in the entrepreneurs' blocks. As a consequence, the benefits that Congress intended for designated entities would be enjoyed, in disproportionate measure, by only a few individuals or entities. Congress, in our view, did not intend that result. We shall therefore take steps to ensure that the financial assistance provided through our rules is dispersed to a reasonable number of applicants who win licenses in these blocks.

170. To achieve a fair distribution of the benefits intended by Congress, we shall impose a reasonable limit on the total number of licenses within the entrepreneurs' blocks that a single entity may win at auction. In setting this limit, we shall take care not to impose a restriction that would prevent applicants from obtaining a sufficient number of licenses to create large and efficient regional services. Specifically, we shall impose a limitation that no single entity may win more than 10 percent of the licenses available in the entrepreneurs' blocks, or 98 licenses. These licenses may all be in frequency block C or all in frequency block F, or in some combination of the two blocks. Such a limit will ensure that at least ten winning bidders enjoy the benefits of the entrepreneurs' blocks. At the same time, it will allow bidders to effectuate aggregation strategies that include large numbers of licenses and extensive geographic coverage.

171. Further, this limitation will apply only to the total number of

[142] As discussed below, these SBA affiliation rules also will be used as a basis for our own rules defining "affiliates" for purposes of determining whether particular entities meet the financial thresholds for bidding in the entrepreneurs' blocks or for qualifying as a small business.

[143] Second Report and Order at ¶ 278, citing *Intermountain Microwave*, 24 Rad. Reg. 983, 984 (1963).

[144] A minority or woman-owned company must continue to adhere to the attribution rules applicable to it, set out above.

[145] These rules will continue to apply in this manner throughout the license term with regard to a firm's continuing eligibility for installment payments, "enhanced" installment payments and bidding credits.

licenses that may be won at auctions in these blocks; it is not an ownership cap that applies to licenses that might be obtained after the auctions. For purposes of implementing this restriction, we shall consider licenses to be won by the same entity if an applicant (or other entity) that controls, or has the power to control licenses won at the auction, controls or has the power to control another license won at the auction.

2. Definition of Small Business

172. In the *Second Report and Order* we adopted a definition for small businesses based on the standard definition used by the Small Business Administration (SBA). This definition permits an applicant to qualify for installment payments based on a net worth not in excess of $6 million with average net income after Federal income taxes for the two preceding years not in excess of $2 million. 13 CFR § 121.601.[146] In the *Second Report and Order*, we noted, however, that, in certain telecommunications industry sectors, this limit may not be high enough to encompass those entities that, while needing the assistance provided by installment payments, have the financial wherewithal to construct and operate the systems. Therefore we indicated that, on a service specific basis, we might adjust this definition upward to accommodate capital intensive telecommunications businesses. *See Second Report and Order* at ¶ 267.

173. Many commenters, including the Chief Counsel for Advocacy of the SBA, argue that the SBA net worth/net revenue definition is too restrictive and will exclude businesses of sufficient size to survive, much less succeed, in the competitive broadband PCS marketplace. The SBA's Chief Counsel for Advocacy and the Suite 12 Group advocate adoption of a gross revenue test, arguing that a net worth test could be misleading as some very large companies have low net worth. The SBA's Chief Counsel for Advocacy recommends that the revenue standard be raised to include firms that (together with affiliates) have less than $40 million in gross revenue. Similarly, Suite 12 suggests a $75 million in annual sales threshold.[147] As another option, the SBA's Chief Counsel for Advocacy suggests that the Commission consider a higher revenue ceiling or adopt different size standards for different telecommunications markets.[148]

174. We expect broadband PCS to be a highly capital intensive business requiring bidders to expend tens of millions of dollars to acquire a license and construct a system even in the smaller broadband PCS markets. Thus, we believe that our current small business definition is overly restrictive because it would exclude most businesses possessing the financial resources to compete successfully in the provision of broadband PCS services. Accordingly, we modify our small business definition for broadband PCS auctions to ensure the participation of small businesses with the financial resources to compete effectively in an auction and in the provision of broadband PCS services.

175. There is substantial support in the record for a $40 million gross revenue standard. For example, the SBA recommends that for broadband PCS, a small business be defined as one whose average annual gross revenues for its past three years do not exceed $40 million.[149] It states that this definition isolates those companies that have significantly greater difficulty in obtaining capital than large enterprises. At the same time, the SBA contends that a company with $40 million in revenue is sufficiently large that it could survive in a competitive wireless communications market.[150] Similarly, the SBA Chief Counsel for Advocacy asserts that a $40 million threshold will allow participation by firms "of sufficient size to meet demands in almost all small markets and some medium-size markets without significant outside financial assistance."[151] For purposes of broadband PCS, we shall therefore define a small business as any firm, together with its attributable investors and affiliates, with average gross revenues for the three preceding years not in excess of $40 million.[152] In addition, an applicant will not qualify as a small business if any one attributable investor in, or affiliate of, the entity has $40 million or more in personal net worth.[153]

176. For purposes of determining whether an entity qualifies as a small business, we will follow the control group and attribution rules set forth with regard to eligibility to bid in the entrepreneurs' blocks. In particular, winning bidders are required to identify on their long-form applications a control group that holds at least 50.1 percent of the voting interests of the applicant (and otherwise has *de facto* control) and owns at least a 25 percent equity stake. The gross revenues of each member of the control group and each member's affiliates will be counted toward the $40 million gross revenue threshold, regardless of the size of the member's total interest in the applicant. The $40 million personal net worth limitation will also apply to each member of the

[146] The SBA has recently changed its net worth/net income standard as it applies to its Small Business Investment Company (SBIC) Program. *See* 59 Fed. Reg. 16953, 16956 (April 8, 1994). The new standard for determining eligibility for small business concerns applying for financial and/or management assistance under the SBIC program was increased to $18 million net worth and $6 million after-tax net income. 15 CFR § 121.802(a)(3)(i). The change in this size standard was attributable to an adjustment for inflation and changes in the SBIC program "designed to strengthen and expand the capabilities of SBICs to finance small businesses so that they can increase their contribution to economic growth and job creation." 59 Fed. Reg. at 16955. However, Section 121.601, which was the SBA size standard cited in the Notice and the Second Report and Order, has not been modified by the SBA. For purposes of our generic competitive bidding rules, in consultation with the SBA, we will reexamine our $6 million net worth/$2 million annual profits definition in light of the SBA's recent action.

[147] Many other commenters set forth their recommendations on the appropriate small business definition for broadband PCS preferences. *See, e.g.*, comments of Tri-State ($5 million average annual operating cash flow), Luxcel (net worth not exceeding $20 million), and Iowa Network (less than $40 million in annual revenues).

[148] Some parties recommend using the SBA's alternative 1500 employee standard. *See, e.g.*, comments of SBA Associate Administrator for Procurement Assistance at 2; CFW Communications at 2, and Iowa Network at 17. A number of other commenters, including the SBA's Chief Counsel for Advocacy, argue, however, that adoption of this alternative SBA definition would open up a huge loophole in the designated entity eligibility criteria. Specifically, they contend that telecommunications is a capital, rather than labor, intensive industry, and that an entity with 1,500 employees is likely to be extremely well capitalized and have no need for the special treatment mandated by Congress in the Budget Act. *See, e.g.*, comments of SBA Chief Counsel for Advocacy at 8, LuxCel Group, Inc. at 4, Suite 12 Group at 10–11.

[149] *Ex parte* filing of U.S. Small Business Administration, June 24, 1994.

[150] *Id.*

[151] Comments of SBA Office of Advocacy at 10. *Cf.* comments of Iowa Network and Telephone Electronics Corporation (advocating a $40 million annual revenue criterion for telephone companies) and reply comments of North American Interactive Partners and Kingwood Associates (advocating $40 million gross-revenue criterion for applicants for the fifty most-populous BTAs, based on estimated average build-out cost).

[152] The establishment of small business size standards is generally governed by Section 3 of the Small Business Act of 1953, as amended, 15 U.S.C. § 642(a). Recent amendments to that statute provide that small business size standards developed by Federal agencies must be based on the average gross revenues of such business over a period of not less than three years. *See* Pub. L. No. 102–366, Title II, § 222(a), 106 Stat. 999 (1992); 15 U.S.C. § 632 (a)(2)(B)(ii).

[153] Unlike our eligibility criteria to bid in the entrepreneurs' blocks, we do not adopt a total assets standard here. We believe that the $40 million gross revenue cap for small businesses, together with the $500 million total asset threshold we set for entry into the entrepreneurs' blocks in the first instance, should be sufficient to ensure that only *bona fide* small businesses are able to take advantage of the measures intended for those designated entities.

control group. We will not consider the gross revenues or personal net worth of any other investor unless the investor holds 25 percent or more of the outstanding passive equity in the applicant, which, as defined above, includes as much as five percent of the voting stock in a corporate applicant.

177. We also adopt the more relaxed attribution standard set forth in the entrepreneurs' blocks section with regard to investors in minority and female-owned applicants. Specifically, we will not consider the gross revenues or personal net worth of a single passive investor in a minority or female-owned small business unless the investor holds in excess of a 49.9 percent passive interest (which includes as much as five percent of a corporate applicant's voting stock), provided the women or minority control group maintains at least 50.1 percent of the equity and, in the case of a corporate applicant, at least 50.1 percent of the voting stock.[154] We believe that such revenue attribution will ensure that only *bona fide* small businesses are able to take advantage of the special provisions we have adopted, but will allow those businesses to attract sufficient equity capital to be truly viable contenders in the PCS industry.

178. These financial eligibility rules will continue to apply throughout the license term. Thus, firms that received bidding credits and "enhanced" installment payments based on their small business status will be subject to the repayment penalties outlined above, if an investor subsequently purchases an "attributable" interest (*e.g.* 25 percent or more of the firm's equity) and, as a result, the gross revenues of the firm exceed the $40 million gross revenues cap, or the personal net worth of the investor exceeds the $40 million personal net worth threshold.

179. Finally, we will allow a consortium of small businesses to qualify for any of the measures adopted in this order applicable to individual small businesses. As used here, the term "consortium" means a conglomerate organization formed as a joint venture among mutually-independent business firms, each of which individually satisfies the definition of a small business.

180. Several commenters argue that a consortium should not qualify for special treatment unless the consortium itself meets the established definitional criteria.[155] They contend that the FCC should not allow consortia to be used as a means of circumventing the usual prerequisites for these special provisions. In the *Second Report and Order*, we concluded that consortia might be permitted to receive benefits based on participation in the consortium by one or more designated entities, but believed such a consortium should not be entitled to qualify for measures designed specifically for designated entities. As a general matter, we shall continue to adhere to that principle. We think, however, that in the broadband PCS service, allowing small businesses to pool their resources in this manner is necessary to help them overcome capital formation problems and thereby ensure their opportunity to participate in auctions and to become strong broadband PCS competitors. Because of the exceptionally large capital requirements in this service, we agree with the SBA Chief Counsel for Advocacy that, so long as individual members of the consortium satisfy the definition of a small business, the congressional objective of ensuring opportunities for small business will be fully met. Individual small entities that join to form consortia, as distinguished from a single entity with gross revenues in excess of $40 million, still are likely to encounter capital access problems and, thus, should qualify for members aimed at small businesses. We do not believe however, that this congressional goal will be satisfied if special measures are allowed for consortia that are "predominantly" or "significantly" owned and/or controlled by small businesses, as recommended by several commenters.[156] This would have the effect of eviscerating our small business definitional criteria and would not further the ability of *bona fide* small businesses to participate in PCS services.

3. Definition of Women and Minority-Owned Business

181. As discussed above, we have taken steps in this order to address the special funding problems faced by minority and women-owned firms and thereby to ensure that these groups have the opportunity to participate and become strong competitors in the broadband PCS service.[157] We thus have adopted a tax certificate program for women and minorities to allow more sources of potential funding, have relaxed the attribution standard used to determine eligibility to bid for licenses on frequency blocks C and F, and have adopted special measures for installment payments and bidding credits.

182. As also indicated above, for purposes of implementing these steps, we have departed from the definition of a minority and woman-owned firm that was adopted in the *Second Report and Order*. There, we found generally that to establish ownership by minorities and women, a strict eligibility standard should be adopted that required minorities or women to have at least a 50.1 percent equity stake and a 50.1 percent controlling interest in the designated entity. *Second Report and Order* at ¶ 277; 47 CFR § 1.2110(b)(2). For the broadband PCS auctions, we retain the requirement that minorities and/or women control the applicant and hold at least 50.1 percent of a corporate applicant's voting stock. However, to establish their eligibility for certain benefits, summarized below, we shall impose an additional requirement that, even where minorities and women hold at least 50.1 percent of the applicant's equity, other investors in the applicant may own only passive interests, which, for corporate applicants, is defined to include as much as five percent of the voting stock. In addition, provided that certain restrictions are met, we shall also allow women and minority-owed firms the option to reduce to 25 percent the 50.1 percent minimum equity amount that must be held.

183. We emphasized in the *Second Report and Order* that we did not intend to restrict the use of various equity financing mechanisms and incentives to attract financing, provided that the minority and women principals continued to own 50.1 percent of the equity, calculated on a fully-diluted basis, and that their equity interest entitled them to a substantial stake in the profits and liquidation value of the venture relative to the non-controlling principals. We noted, however, that different standards that meet the same objectives may be appropriate in other contexts. *Second Report and Order* at ¶ 278. In view of the evidence of discriminatory lending experiences faced by minority and women entrepreneurs and the exceptional great financial resources believed to be

[154] *See supra* ¶ 160.

[155] *See* comments of McCaw at 21 and Myers at 6.

[156] *See, e.g.*, comments of Rural Cellular Corp. at 2, Bell Atlantic at 17, NAMTEC at 19, and AT&T at 25–26.

[157] As noted in the Second Report and Order, the members of the following groups will be considered "minorities" for purposes of our rules: "[T]hose of Black, Hispanic Surnamed, American Eskimo, Aleut, American Indian and Asiatic American extraction." *See* Statement of Policy on Minority Ownership of Broadcasting Facilities, 68 FCC 2d 979, 980 n.8 (1978); Commission Policy Regarding the Advancement of Minority Ownership in Broadcasting, 92 FCC 2d 849, 489 n.1 (1982). Moreover, as adopted in the Second Report and Order, minority and women-owned businesses will be eligible for special measures only if the minority and women principals are also United States citizens.

required by broadband PCS applicants, we conclude that it is appropriate to allow more flexibility with regard to the 50.1 percent equity requirements for this service in order to open doors to more sources of equity financing for women and minority-owned firms.

184. We shall therefore allow women and minority-owned firms the following options. First, they may satisfy the general definition set forth in the *Second Report and Order*, which requires the minority and/or female principles to control the applicant, own at least 50.1 percent of its equity and, in the case of corporate applicants, hold at least 50.1 percent of the voting stock. Under this option, other investors may own as much as a 49.9 percent passive equity interest. As noted above regarding eligibility to bid in the entrepreneurs' blocks, passive equity in the corporate context means only non-voting stock may be held, or stock that includes no more than five percent of the voting interests.[158] For partnerships, the term means limited partnership interests that do not have the power to exercise control of the equity. In addition, as required in the *Second Report and Order*, all investor interests will be calculated on a fully-diluted basis, meaning that agreements such as stock options, warrants and convertible debentures generally will be considered to have a present effect and will be treated as if the rights thereunder have been fully exercised.[159] We recognize that the requirement that other investors own only passive interests is a departure from the definition of a minority or women-owned business adopted in the *Second Report and Order*, but because of the very significant financial contribution that may be made by such other investors in designated entities, we believe that the passive equity requirement is appropriate as an additional safeguard to ensure that minorities and/or women retain control of the applicant.

185. As a second option, women and minority-owned firms may sell up to 75 percent of the company's equity, provided that no single investor may hold 25 percent or more of the firm's passive equity, which is defined in the same manner as above. For example, a corporation with 100 shares of voting stock and 100 shares of non-voting stock, with the 200 shares representing the total outstanding shares of the company, could qualify as a minority or women-owned business under the following circumstances. The minority or women principals would have to own at least 51 shares of voting stock, which satisfies the requirement that they have voting control and, in this case, also meets the requirements that they hold at least 25 percent of the equity. Two other investors could each own 44 shares of non-voting stock and five shares of voting stock, which represents 24.5 percent of the company's equity for each of the shareholders. A third investor could own the remaining 12 shares of non-voting stock and five shares of the voting stock, or 8.5 percent of the equity. The remaining 34 shares of voting stock may be sold to other investors provided that no single investor owns more than five shares.

186. Whichever option is chosen, we will require establishment of a "control group" in much the same way we did for purposes of eligibility to bid in the entrepreneurs' blocks. Specifically, winning bidders, transferees or assignees must identify on their long-form applications a control group (consisting entirely of minorities and/or women or entities 100 percent owned and controlled by minorities and women) that has *de jure* and *de facto* control of the applicant and holds either at least 50.1 or 25 percent of the applicant's equity, depending upon which option is elected.

187. We believe that a modification of our 50.1 percent equity requirement will best achieve Congress' objective of providing effective and long-term economic opportunities for women and minority-owned firms in broadband PCS. At the same time, we shall maintain strict enforcement of the requirement that actual control reside with the qualified designated entities. Thus, to establish their eligibility for tax certificates, enhanced installment payments, bidding credits and relaxed cellular attribution rules, women and minority-owned applicants electing to use the 25 percent equity option may not in any instance allow an individual investor who is not in the control group to own more than a 25 percent passive equity interest. This restriction will apply even in circumstances in which allowing an investor to exceed these limitations would not result in the applicant's exceeding the gross revenues and other financial standards that apply to other bidders in the entrepreneurs' blocks and other situations involving financial caps. These structural safeguards, as well as the general requirement that other investors hold only passive interests in women and minority-owned applicants, will help to ensure that control truly remains with the women and minority designated entities.

188. For example, a women or minority-owned firm electing to use the 25 percent option may have a non-eligible investor with more than a 25 percent passive stake and still qualify to bid in the entrepreneurs' blocks or for benefits that apply to small businesses, as long as the attributable revenues of the investor do not cause the applicant to exceed the gross revenues/total assets caps. In these contexts, no additional restrictions are necessary, because women and minority-owned applicants, like other applicants, are eligible to bid in these blocks and to qualify as small businesses so long as they comply with the same restrictions on financial eligibility that apply to other applicants. Since the attribution rule itself operates to ensure compliance with size limitations, it is not necessary to impose additional restrictions on the size of interests held by investors with attributable interests. This firm will not qualify, however, for special measures applicable only to women and minority-owned businesses, such as "enhanced" installment payments or the 15 or 25 percent bidding credits, because it has a single non-eligible investor with more than a 25 percent passive interest. In circumstances in which women and minorities are required to retain only 25 percent of the firm's equity, this additional structural restriction is appropriate because the objective in this context is to ensure not merely financial eligibility, but that women and minorities retain control of the license.

189. We set forth previously rules defining more explicitly the term "control" for purposes of determining whether a "control group" maintains *de facto* as well as *de jure* control of an applicant.[160] Those rules apply equally to the minority and women principals of minority and women-owned applicants. Consistent with our general policies with regard to women-owned applicants for purposes of our multiple ownership

[158] For example, under this option, a corporate applicant with two classes of issued and outstanding stock, 100 shares of voting stock and 100 shares of non-voting stock, could sell to a single non-eligible entity 49.9 percent of the applicant's equity, consisting of 5 shares of the corporate's voting stock and 94 shares of its non-voting stock. Under this scenario, eligible minorities or women, in order to retain at least 50.1 percent of the value of all outstanding shares of the corporation's stock, must own all of the corporation's remaining shares of stock; that is, 95 shares of voting stock and six shares of non-voting stock.

[159] As also noted in the Second Report and Order, we will consider departing from the requirement that the equity of investors in minority and women-owned businesses must be calculated on a fully-diluted basis only upon a demonstration, in individual cases, that options or conversion rights held by non-controlling principals will not deprive the minority and women principals of a substantial financial stake in the venture or impair their rights to control the designated equity. *See* Second Report and Order at ¶ 277.

[160] *See supra* ¶ 164.

and cross-ownership rules in this broadcast context, we shall not adopt, at this time, any special rules or presumptions to determine whether women-owned applicants exercise independent control of their firms. *See* In the Matter of Clarification of Commission Policies Regarding Spousal Attribution, 7 FCC Rcd 1920, 57 FR 8845, Mar. 13, 1992.

190. Our requirement that control rest with minorities and/or women and the clarifications above ensure that parties do not attempt to evade the statutory requirement to provide economic opportunities and ensure participation by businesses owned by these groups. We reaffirm our commitment to investigate all allegations of fronts, shams or other methods used by those who try to obtain a benefit to which they are not lawfully entitled. In this vein, we again admonish parties that we will conduct random pre- and post-auction audits to ensure that applicants receiving these benefits are *bona fide* designated entities.

191. We also note here that we are departing from the provision in the *Second Report and Order* that bars publicly traded companies from qualifying as minority and woman-owned businesses for purposes of participating in auctions. Most of the steps taken to assist these designated entities in this Order (*e.g.*, bidding credits and installment payments) are confined to winning bidders in the entrepreneurs' blocks, where there is a financial limit on the size of participants. Because of the expected large capital entry costs of broadband PCS, we believe that even publicly traded companies owned by women and minorities that qualify to bid in blocks C and F require additional measures, such as bidding credits and installment payments, to be able to participate successfully. We emphasize, however, that the exception to the attribution rules for publicly traded companies to be eligible to bid in the entrepreneurs' blocks does not apply here.[161] To qualify for measures targeted exclusively to women and minority-owned businesses, a company must satisfy the definition set forth in this section.

192. As noted above, applicants owned by women and minorities must meet the limitations on gross revenues, total assets and personal net worth to qualify for entry into the entrepreneurs' blocks. The size limitations do not apply, however, to all measures designed to assist applicants owned by minorities and/or women. The tax certificate policy applies to all broadband PCS licenses and is not limited to licenses in the entrepreneurs' blocks. Therefore, businesses owned by minorities and women need not meet the gross revenue and other financial restrictions to qualify for tax certificates. Similarly, the relaxed cellular attribution threshold for minority and women-owned firms adopted in the *Broadband PCS Reconsideration Order* is not limited to the entrepreneurs' blocks. Thus, minority and women-owned firms that do not meet the gross revenues, total assets and net worth restrictions may nevertheless qualify for the 40 percent cellular attribution rule. But minority and women-owned firms must satisfy the Commission's structural ownership requirements to receive the benefits of tax certificates and the relaxed cellular attribution rule; that is, they are subject to the limitation that interests held by investors who are not women and minorities must be passive.

4. Definition of Rural Telephone Company

193. As discussed above, we have adopted several measures to assist rural telephone companies in the broadband PCS service. We decide here the definition of rural telephone companies who are eligible for those benefits. As explained below, for this service, we shall depart from the definition adopted in the *Second Report and Order* and define rural telephone companies as local exchange carriers having 100,000 or fewer access lines, including all affiliates.

194. As we pointed out in the *Second Report and Order*,[162] most of those responding to our tentative conclusion in the Notice concerning the definition of a rural telephone company contended that the proposed definition, which was based on the standard contained in Section 63.58 of the Commission's Rules, was too restrictive. A variety of more inclusive definitions were recommended.[163] Some commenters advocated a definition in which a company would qualify if it satisfied either of two alternative criteria based on population of communities served or number of access lines.[164] Others advocated adoption of a definition focusing simply on the number of access lines provided.[165] One commenter advocated a definition focusing exclusively on revenues rather than access lines, with the standard for rural telephone company status at annual revenues under $100 million.[166] In addition, some advocated a somewhat more restrictive definition.[167]

195. Many commenters suggested limiting rural telephone eligibility to carriers serving communities with no more than 10,000 inhabitants, asserting that such a standard better comports with common notions about which telephone companies are "rural."[168] A number of other commenters supported a definition of rural telephone company that would include a limitation on the size of the company. OPASTCO, for example, asserted that such a limitation would comport with the statutory mandate to ensure opportunity for rural telephone companies because "the problem such companies face in the competitive bidding arena" is as much a function of their size as of the rural character of their service areas."[169] NTCA similarly contended that small companies have shown the interest and commitment needed to fulfill the explicit statutory goal of "rapid deployment of new * * * services for * * * those residing in rural areas," citing as support a report on the deployment of digital switching by small LECs.[170] Other parties suggested

[161] With regard to qualifying to bid in the entrepreneurs' blocks, we stated that we would not attribute the revenues or assets of an investor that owns up to 15 percent of a publicly traded applicant's voting stock. For privately held companies, the voting stock threshold is five percent. *See supra* ¶¶ 158, 163.

[162] Second Report and Order at ¶¶279–282.

[163] *See, e.g.*, comments of Saco River, Telephone Electronics, and Iowa Network (advocating amending the proposed definition merely by raising the population threshold to 10,000), and comments of Chickasaw (advocating definition including companies that predominantly, but not exclusively, serve customers in communities of less than 10,000 in non-urbanized areas).

[164] *See, e.g.*, comments of Telocator, TDS, NYNEX, NOTA, NTCA and Saco River (recommending a definition including companies that either provide service only within communities of 10,000 or less in non-urbanized areas or provide 10,000 or fewer access lines (and no more than 150,000 in conjunction with affiliates)); comments of OPASTCO (recommending defining rural telephone companies as those that either provide exchange service only within communities of 10,000 or less in non-urbanized areas or that provide 50,000 or fewer access lines; and comments of SBA Chief Counsel for Advocacy (recommending a definition including companies serving communities of 20,000 or less in non-urbanized areas or providing 50,000 or fewer access lines (including lines provided by affiliates)).

[165] *See, e.g.*, comments of STCL, MEBTEL, CFW, Minnesota Equal Access Network, Rural Cellular Assn., Rural Cellular Corp., Rochester Tel. Corp, McCaw, DialPage, APC, TDS and Gulf Telephone Co. (suggesting caps between 25,000 and 150,000 access lines).

[166] Comments of PMN.

[167] *See, e.g.*, comments of GTE (definition would apply only to companies that exclusively serve customers in communities of 10,000 or less in non-urbanized areas and that provide wireline exchange service to 10,000 or fewer customers).

[168] *See, e.g.*, comments of OPASTCO, Iowa Network, Saco River and Telephone Electronics.

[169] Comments of OPASTCO at 5.

[170] Comments of NTCA at 7–8.

that we look to the unenacted antecedent of the Budget Act, S. 1134, in which a rural company was defined as an entity that either (a) "provides telephone exchange service by wire in a rural area" (*i.e.*, a non-urbanized area containing no incorporated place with more than 10,000 inhabitants), (b) "provides telephone exchange service by wire to less than 10,000 subscribers," or (c) "is a telephone utility whose income accrues to a State or political subdivision thereof."

196. In the *Second Report and Order*, we adopted a definition of "rural telephone company" that includes independently owned and operated local exchange carriers that (1) do not serve communities with more than 10,000 inhabitants in the licensed area, and (2) do not have more than 50,000 access lines, including all affiliates. 47 CFR § 1.2110(b)(3). We stated our belief that a limitation on the size of eligible rural telephone companies is appropriate because Congress did not intend for us to give special treatment to large LECs that happen to serve small rural communities. *See Second Report and Order* at ¶ 282.

197. Several parties who filed petitions for reconsideration of the *Second Report and Order* argue that the definition adopted for rural telephone companies may be too restrictive given the capital intensive nature of broadband PCS.[171] We also note that NTCA argued in its comments in this proceeding that it is neither necessary nor appropriate to use the same criteria to define rural telephone companies in rules pertaining to different services, technologies, and industries.[172] Likewise, in an *ex parte* letter, OPASTCO states that by defining rural telephone company for purposes of broadband PCS as a local exchange carrier with less than $100 million in revenue, the Commission will properly capture in the defined class locally-owned telephone companies who are truly interested in providing services to rural areas.[173] OPASTCO notes that the "same universe of companies" that would fall under such a revenue threshold would be captured by a definition that includes all telephone companies having 100,000 or fewer access lines.[174]

198. Our challenge in establishing a definition of a rural telephone company for broadband PCS is to achieve the congressional goal of promoting the rapid deployment of this new service in rural areas by targeting only those telephone companies whose service territories are predominantly rural in nature, and who are thus likely to be able to use on their existing wireline telephone networks to build broadband PCS infrastructures to serve rural America. For purposes of our rules governing broadband PCS licenses, we believe that this goal can best be achieved if we define rural telephone companies as those local exchange carriers having 100,000 or fewer access lines, including all affiliates. We agree with OPASTCO that such a definition will include virtually all of the telephone companies who genuinely are interested in providing services to rural areas. This definition will encourage participation by legitimate rural telephone companies without providing special treatment to large LECs. Therefore, we will better achieve the congressional goal of providing service rapidly to rural areas without giving benefits to large companies that do not require such assistance. Rural telephone companies that satisfy this definition thus will be eligible for rural partitioning, as discussed above.[175]

199. Anchorage Telephone Company argues in a petition for reconsideration of the *Second Report and Order* that our definition of a rural telephone company should include telephone companies that are owned by governmental authorities. Anchorage contends that Congress meant to mandate special consideration not only for telephone carriers serving rural areas but also for all municipally-owned telcos, even those with wholly or predominantly urban service areas.[176] This argument is based on its interpretation of the Senate bill that was antecedent to the enacted Budget Act. Anchorage argues that the Senate bill containing the prototype of a mandate for special consideration for rural telephone companies directed the FCC to grant "rural program licenses" to "qualified" common carriers and explicitly said that the category of "qualified" carriers included all state-owned and municipally-owned telephone companies. Anchorage further states that the report of the conference committee that drafted the Budget Act declares that the Senate's "findings" are incorporated by reference.[177] Anchorage also asserts that without the aid of special assistance it and most other state-owned and municipal telcos won't be able to purchase spectrum licenses at auction because it is politically infeasible for them to generate and retain enough surplus revenue to fund such investments, due to popular aversion to increases in taxes or telephone rates.[178]

200. We find no merit in Anchorage's arguments. There is no specific evidence that Congress intended the term "rural telephone companies" to include all state or municipally-owned telephone companies. To the contrary, the fact that an antecedent bill contained an explicit mandate for preferential treatment of government-owned telephone companies that was deleted from the enacted bill could just as easily be interpreted as an indication that Congress rejected such a rule. Further, we disagree that state and municipal governments lack the means to participate successfully in auctions. Such governments have substantial capabilities to raise funds through private financing, bond offerings and taxation. Therefore, our definition of a rural telephone company will not encompass telephone companies that are owned by government authorities.

5. Definition of an Affiliate

201. Many of the eligibility criteria set forth above are based on the size of the entity applying for a broadband PCS license and/or seeking special treatment under our designated entity policies. Each of these size standards ($125 million gross revenues/$500 million total assets/$100 million personal net worth, $40 million gross revenues/$40 million personal net worth, and 100,000 access lines) requires applicants to include, among other parties, "affiliates" when calculating their attributable gross revenues, total assets, net worth or access lines. This affiliation requirement is intended to prevent entities that, for all practical purposes, do not meet these size standards from receiving benefits targeted to smaller entities.[179] We adopt specific affiliation rules for purposes of applying these eligibility criteria based in part on the Small Business Administration's affiliation rules.[180]

202. In the *Second Report and Order*, we referenced the SBA's affiliation rules for purposes of defining generally

[171] *See, e.g.*, petitions of South Dakota Network (SDN), U.S. Intelco, NTCA, Rural Cellular Association and TDS. We note that similar arguments have been made with respect to other services.

[172] *See* comments of NTCA at 4.

[173] *Ex parte* filing of filing of OPASTCO, June 2, 1994, at 2; *see also* comments of PMN at 7–8.

[174] *Id.*

[175] Such companies also will be eligible for special treatment under our cellular attribution rules for broadband PCS. *See* 47 CFR § 24.204(d)(2)(ii).

[176] Anchorage Petition at 2–3.

[177] *Id.*

[178] *Id.* at 4–5.

[179] *See, e.g.*, Second Report and Order at ¶272.

[180] *See* 13 CFR § 121.401 (1993) (formerly at 13 CFR § 121.3 (1989)).

whether an entity qualifies as a small business and gave examples of how the affiliation rules would be applied. We continue to believe that the SBA's affiliation rules provide a solid foundation on which to build our own affiliation rules for purposes of the small business definition for broadband PCS and for the other size standards adopted in this order.[181] Accordingly, for purposes of these eligibility restrictions, we will again borrow from the SBA's rules for outside affiliations. In addition, to ensure that applicants have clear guidance concerning these matters, we shall include in our rules more detailed information concerning the circumstances in which an entity will be deemed an affiliate of the applicant.

203. Like the eligibility rules we have adopted here governing size limitations for broadband PCS, the SBA's rules provide that size determinations shall include the applicant and all of its "affiliates."[182] At the outset, before considering in more detail all the types of affiliations that might exist when guided by the SBA rules, we review briefly our own rules described above, concerning attributable interests. Those rules provide that, so long as a control group is established, the gross revenues, assets or net worth of an investor in a PCS applicant or licensee will be attributed to the applicant or licensee only if the investor holds more than 25 percent of the applicant's passive equity or is part of a control group that controls the applicant. Therefore, only where an investor has such attributable interests in the broadband PCS applicant or licensee do we need to examine whether the investor has a relationship with other persons or outside entities that rises to the level of an affiliation with the PCS applicant, and if so, whether the affiliate's revenues or net worth, when aggregated with the applicant's, exceed our size eligibility thresholds.

204. *General Principles of Affiliation.* When such an attributable interest exists, an affiliation under the SBA rules would arise, first, from "control" of an entity or the "power to control it." Thus, under the SBA rules, entities are affiliates of each other when either directly or indirectly (i) one concern controls or has the power to control the other, or (ii) a third party or parties controls or has the power to control both. 13 CFR § 121.401(a)(2)(i), (ii). In determining control, the SBA's rules provide generally that every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. The rules, in addition, provide specific examples of where control resides under various scenarios, such as through stock ownership or occupancy of director, officer or management positions. The rules also articulate general principles of control, and note, for example, that control may be affirmative or negative and that it is immaterial whether control is exercised so long as the power to control exists. 13 CFR § 121.401(c)(1). Second, an affiliation, under SBA rules, may also arise out of an "identity of interest" between or among parties. 13 CFR § 121.401(a)(2)(iii), (d). We shall adopt these same general provisions in our affiliation rules for broadband PCS.

205. In adopting these affiliation rules, we emphasize that these rules will not be applied in a manner that defeats the objectives of our attribution rules. Our attribution rules expressly permit applicants to disregard the gross revenues, total assets and net worth of passive investors, provided that an eligible control group has *de facto* and *de jure* control of the applicant. Our attribution rules are designed to preserve control of the applicant by eligible entities, yet allow investment in the applicant by entities that do not meet the size restrictions in our rules. Therefore, so long as the requirements of our attribution rules are met, the affiliation rules will not be used to defeat the underlying policy objectives of allowing such passive investors. More specifically, if a control group has *de facto* and *de jure* control of the applicant, we shall not construe the affiliation rules in a manner that causes the interests of passive investors to be attributed to the applicant.

206. Applying these SBA affiliation rules, and affiliation would arise, for example, where an entity with an attributable interest in a broadband PCS applicant is under the control of another entity. An affiliation would also arise where an entity with an attributable interest in a broadband PCS applicant controls, or has the power to control, another entity. For example, if a 10 percent voting shareholder of a PCS applicant is also a shareholder in a large Corporation X, when should Corporation X be deemed an affiliate of the PCS applicant as a result of the shareholder's ownership interest in both entities? Under the SBA rules and the rules we adopt here, Corporation X would be deemed an affiliate of the applicant if the shareholder controlled or had the power to control Corporation X, in which case, Corporation X's gross revenues must be included in determining the applicant's gross revenues.

207. For purposes of determining control, ownership interests will be calculated on a fully-diluted basis. Thus, for example, stock options, convertible debentures, and agreements to merge (including agreements in principle) will generally be considered to have a present effect on the power to control or own an interest in either an outside entity or the PCS applicant or licensee.[183] We will treat such options, debentures, and agreements generally as though the rights held thereunder had been exercised.[184] However, an affiliate cannot use such options and debentures to appear to terminate its control over or relationship with another concern before it actually does so.[185]

208. *Voting and Other Trusts.* In a similar vein, we also borrow from the SBA's rules and our own rules in other services to find affiliation under certain voting trusts in order to prevent a circumvention of eligibility rules. The SBA's rules provide that a voting trust, or similar agreement, cannot be used to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control an outside concern, if the primary purpose of the trust is to meet size eligibility rules.[186] Similarly,

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[181] SBA's affiliation rules were promulgated under the authority in Section 3 of the Small Business Act of 1953, as amended, 15 U.S.C. § 632, which provides that, to be eligible for benefits provided by SBA and other agencies, a "small-business concern" must be "independently owned and operated." *See Small Business Size Standards*, 54 FR 52634 (December 21, 1989).

[182] *See* 13 CFR § 121.401(a).

[183] We recognize that we have adopted a different rule for purposes of our broadband PCS-cellular ownership rules. *See* 47 C.F.R. § 24.204(d)(2)(v). In that context, however, our purpose was not to establish the financial position, or potential financial position, of applicants bidding in auctions.

[184] *See* 13 C.F.R. § 121.401(f). SBA's rules provide the following examples to guide the application of this provision:

Example 1. If company "A" holds an option to purchase a controlling interest in company "B," the situation is treated as though company "A" had exercised its rights and had become owner of a controlling interest in company "B." The [annual revenues] of both concerns must be taken into account in determining size.

Example 2. If company "A" has entered into an agreement to merge with company "B" in the future, the situation is treated as though the merger has taken place. [A and B are affiliates of each other].

[185] *Id.* SBA's rules provide this example:

If large company "A" holds 70% (70 of 100 outstanding shares) of the voting stock of company "B" and gives a third party an option to purchase 66 of the 70 shares owned by company "A," company "B" will be deemed to be an affiliate of company "A" until the third party actually exercises its option to purchase such shares. In order to prevent large company "A" from circumventing the intent of the regulation which [gives] present effect to stock options, the option is not considered to have present effect in this case.

[186] 13 CFR § 121.401(g).

under the Commission's broadcast multiple ownership rules, stock interests held in trust may be attributed to any person who holds or shares the power to vote such stock, has the sole power to sell such stock, has the right to revoke the trust at will or to replace the trustee at will.[187] Also, under the broadcast rules, if a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary of a trust, the stock interests held in trust will be considered assets of the grantor or beneficiary, as appropriate.[188] Because we believe the broadcast rules provide more definitive guidance in this particular area, we shall use them as a model for the affiliation rules adopted here. Thus, for example, if an investor with an attributable interest in a PCS applicant holds a beneficial interest in stock of another firm that amounts to a controlling interest in that other firm, depending on the identity of the trustee, the other firm may be considered an affiliate and its assets and gross revenues may be attributed to the PCS applicant.

209. *Officers, Directors and Key Employees.* Under the SBA's affiliation rules, affiliations also generally arise where persons serve as the officers, directors or key employees of another concern and they represent a majority or controlling element of that other concern's board of directors and/or management of the outside entity.[189] We shall adopt an identical rule. Thus, if a person with an attributable interest in a broadband PCS applicant, through his or her other key employment positions or positions on the board of another firm, controls that other firm, then the other firm will be considered an affiliate of the applicant. Such affiliations may or may not result in the applicant's exceeding our size limitations. As this rule reflects, for purposes of attributing the financial position of an outside entity in this context, officers and directors of an outside concern are not foreclosed entirely from holding attributable or non-attributable interests in a PCS applicant. Whether or not such persons control the outside entity, we also do not want to prohibit these persons, who may be experienced in the telecommunications, finance, or communications and equipment industries, from assisting start-up companies in PCS by serving as officers or directors of the applicant. Thus, under our general attribution rule, if such persons serving as officers or directors of the applicant do not control the applicant or otherwise have an attributable interest in the applicant, their outside affiliations (even if controlling) will not be considered at all for purposes of determining the applicant's eligibility under our rules.[190]

210. *Affiliation Through Identity of Interest: Family and Spousal Relationships.* As expressed in the SBA's rules, an affiliation may arise not only through control, but out of an "identity of interest" between or among parties. *See* 13 CFR § 121.401(a)(2)(iii). For example, affiliation can arise between or among members of the same family or persons with common investments in more than one concern. In determining who controls or has the power to control an entity, persons with an identity of interests may be treated as though they were one person. 13 CFR § 121.401(d). For example, if two shareholders in Corporation X are both attributable shareholders in the PCS applicant, to the extent that together they have the power to control Corporation X, Corporation X may be deemed an affiliate of the applicant.

211. Similarly, as under the SBA rules, we must consider spousal and other family relationships in determining whether an affiliation exists. Under the SBA rules for determining small business status, for example, members of the same family may be treated as though they were one person because they have an "identity of interest." 13 CFR § 121.401(d). Likewise, in order to determine whether individuals are economically disadvantaged, the SBA rules governing eligibility for participation in the government's "section 8(a)" program for socially and economically disadvantaged small businesses have special provisions for attributing spousal interests. The latter rules provide generally that half of the jointly-owned interests of an applicant and his or her spouse must be attributed to the applicant for purposes of determining the applicant's net worth. *See* 13 CFR § 124.106(a)(2)(i)(A)(1).

212. In the context of the auction eligibility rules at issue here, we begin by clarifying that our reason for considering spousal and kinship relationships is not to determine whether the spouse or other kin of a woman-owned applicant actually is controlling the applicant, thereby violating our eligibility rules for woman-owned businesses. As discussed above, our rules do not embody any presumptions concerning spousal control in that context.[191] Rather, our objective here is to ensure both that entities permitted to bid in the entrepreneurs' blocks are actually in need of special financial assistance and that otherwise ineligible entities do not circumvent the rules prohibiting entry by funding family members that purport to be eligible applicants.

213. In formulating these rules, we need to consider also that, as a practical matter, it will not be possible for us prior to the auctions to resolve all questions that pertain to the individual circumstances of particular applicants. Furthermore, if we determine subsequent to an auction that a winning bidder in fact was ineligible to bid because of spousal or kinship relationships, not only will authorization of service be delayed but, as discussed above, disqualified applicants may be subject to substantial penalties. In these circumstances, we think that the public interest requires that we endeavor, insofar as possible, to establish brightline tests for determining when the financial interests of spouses and other kin should be attributed to the applicant.

214. We have decided that, for purposes of determining whether the financial limitations in our eligibility rules have been met, we will in every instance attribute the financial interests of an applicant's spouse to the applicant. This will resolve any concern that an applicant might transfer his or her assets to a spouse in order to satisfy the personal net worth or control restrictions that apply to eligible entities. For example, an applicant could not transfer stock or other assets to his or her spouse and thereby dispose of interests that, if held by the applicant, would render the applicant ineligible. Just as importantly, this approach will resolve any concern that an applicant might participate in bidding in the entrepreneurs' blocks by using the personal assets of an ineligible spouse, which would defeat entirely the

[187] *See* 47 CFR § 73.3555 note 2(e).

[188] *Id.*

[189] *See* 13 CFR § 121.401(h). A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern. 13 CFR § 121.405.

[190] SBA's size standard affiliation rules also provide that affiliations can arise in a variety of other scenarios, such as where one concern is dependent upon another for contracts and business, where firms share joint facilities, or have joint venture of franchise license agreements. To the extent we believe these rules may have general applicability in the context of our policies for broadband PCS, we shall codify them in our affiliate rules. We caution parties that issues relating to *de facto* control of the applicant (or parties with attributable interests in the applicant) could also arise under arrangements not expressly codified in the rules.

[191] *See supra* ¶ 189.

objective of excluding very large entities from bidding in these blocks.

215. In adopting this rule, we fully recognize that instances could arise in which, if all factors were considered, attributing a spouse's financial interests to the applicant could lead to harsh results. As a general matter, however, we think it provides a workable bright-line standard that resolves fully our policy concerns and avoids undesirable ambiguity concerning the nature of our requirements. As in the SBA rules, however, one exception is clearly warranted; this affiliation standard would not apply if the applicant and his or her spouse are subject to a legal separation recognized by a court of competent jurisdiction. In calculating their personal net worth, investors in the applicant who are legally separated must, of course, still include their share of interests in community property held with a spouse.

216. As indicated above, circumstances could also arise in which other kinship relationships are used as a means to evade our eligibility requirements. Because we believe kinship relationships in many cases do not present the same potential for abuse that exists with spousal relationships, particularly in terms of the "identity of interests" that are likely to exist between the persons involved, we shall adopt a more relaxed standard for determining when kinship interests must be attributed to applicants. In this area, we shall follow the same standard that is applied by the SBA when interpreting its "identity of interest" rule described above. Specifically, an identity of interests between family members and applicants will be presumed to exist, but the presumption can be rebutted by showing that the family members are estranged, or that their family ties are remote, or that the family members are not closely related in business matters. *See generally Texas-Capital Contractors, Inc. v. Abdnor*, 933 F.2d 261 (5th Cir. 1990). For purposes of determining who is a family member under this rule, we shall use a definition that is identical to the definition of "immediate family member" in the SBA's rules, 13 CFR § 124.100.

217. In appropriate cases, an applicant should be able to rebut the presumption regarding kinship affiliations with relative ease, simply by demonstrating that the applicant has no close relationship in business matters with the relevant family members. Of course, should such business relationships arise with a winning applicant after the auction, we might need to consider whether the applicant intended to circumvent the requirements of our eligibility rules. Our holding period rule, which, as discussed above, requires that winning bidders in the entrepreneurs' blocks maintain an ownership structure meeting our eligibility requirements for five years, will serve as an additional safeguard against possible abuses arising from kinship relationships.

VIII. Conclusion, Procedural Matters, and Ordering Clauses

A. Conclusion

218. In fashioning rules for competitive bidding for broadband PCS licenses, we seek to promote the public policy goals set forth for us by Congress. We believe that the rules adopted in this Fifth Report and Order satisfy this objective. These rules should facilitate the rapid implementation of new broadband communications services through advanced technologies and efficient spectrum use, thus advancing the public interest by providing consumers with competitive and innovative wireless voice and data services and also fostering economic growth. The rules will allow for the public to recover a portion of the value of the public spectrum, and will promote access to broadband PCS services by consumers, producers and new entrants by ensuring that small businesses, rural telephone companies and businesses owned by minorities and women will have genuine opportunities to participate in the auctions and in the provision of service. We expect that the advent of PCS will benefit consumers by raising the overall level of competition in many already competitive segments of the telecommunications industry and providing competition in others for the first time, promote job creation in the communications and information sector of the domestic economy, and enhance productivity and efficiency in industry as a whole.

B. Final Regulatory Flexibility Analysis

219. Pursuant to the Regulatory Flexibility Act of 1980, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Notice of Proposed Rule Making in PP Docket No. 93–253. Written comments on the IRFA were requested. The Commission's final analysis is as follows:

220. *Need for and purpose of the action.* This rule making proceeding was initiated to implement Section 309(j) of the Communications Act, as amended. The rules adopted herein will carry out Congress's intent to establish a system of competitive bidding for broadband PCS licenses. The rules adopted herein also will carry out Congress's intent to ensure that small businesses, rural telephone companies, and businesses owned by women and minorities are afforded an opportunity to participate in the provision of spectrum-based services.

221. *Issues raised in response to the IRFA.* The IRFA noted that the proposals under consideration in the NPRM included the possibility of new reporting and recordkeeping requirements for a number of small business entities. No commenters responded specifically to the issues raised in the IRFA. We have made some modifications to the proposed requirements as appropriate.

222. *Significant alternatives considered and rejected.* All significant alternatives have been addressed in the Fifth Report and Order.

C. Ordering Clauses

223. Accordingly, it is ordered that part 24 of the Commission's Rules is amended as set forth in the attachment hereto.

224. It is further ordered that the rules changes made herein will become effective 30 days after their publication in the **Federal Register**. This action is taken pursuant to Sections 4(i), 303(r) and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 309(j).

List of Subjects in 47 CFR Part 24

Radio.

Federal Communications Commission.

William F. Caton,

Acting Secretary.

Final Rules

Part 24 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

PART 24—PERSONAL COMMUNICATIONS SERVICES

1. The authority citation for Part 24 continues to read as follows:

Authority: Secs. 4, 301, 302, 303, 309 and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 301, 302, 303, 309 and 332, unless otherwise noted.

§ 24.204 [Amended]

2. Section 24.204 is amended by replacing references to "Section 24.305" and "Section 24.307" in paragraphs (f)(1) and (f)(2), respectively, with "§ 24.705" and "§ 24.707".

3. A new subpart H consisting of §§ 24.701 through 24.720 is added to Part 24 to read as follows:

Subpart H—Competitive Bidding Procedures for Broadband PCS

Sec.

24.701 Broadband PCS subject to competitive bidding.
24.702 Competitive bidding design for Broadband PCS licensing.
24.703 Competitive bidding mechanisms.
24.704 Withdrawal, default and disqualification penalties.
24.705 Bidding application (FCC Form 175 and 175–S Short-Form).
24.706 Submission of upfront payments and down payments.
24.707 Long-form applications.
24.708 License grant, denial, default, and disqualification.
24.709 Eligibility for licenses for frequency Blocks C and F.
24.710 Limitation on licenses won at auction for frequency Blocks C and F.
24.711 Installment payments for licenses for frequency Blocks C and F.
24.712 Bidding credits for licenses for frequency Blocks C and F.
24.713 Tax certificates.
24.714 Eligibility for partitioned licenses.
24.720 Definitions.

Subpart H—Competitive Bidding Procedures for Broadband PCS

§ 24.701 Broadband PCS subject to competitive bidding.

Mutually exclusive initial applications to provide broadband PCS service are subject to competitive bidding procedures. The general competitive bidding procedures found in 47 CFR Part 1, Subpart Q will apply unless otherwise provided in this part.

§ 24.702 Competitive bidding design for Broadband PCS licensing.

(a) The Commission will employ the following competitive bidding designs when choosing from among mutually exclusive initial applications to provide broadband PCS service:

(1) Simultaneous multiple round auctions.

(2) Sequential auctions.

(b) The Commission may design and test alternative procedures. The Commission will announce by Public Notice before each auction the competitive bidding design to be employed in a particular auction.

(c) The Commission may use combinatorial bidding, which would allow bidders to submit all or nothing bids on combinations of licenses, in addition to bids on individual licenses. The Commission may require that to be declared the high bid, a combinatorial bid must exceed the sum of the individual bids by a specified amount or percentage. Combinatorial bidding may be used with any type of auction design.

(d) The Commission may use single combined auctions, which combine bidding for two or more substitutable licenses and award licenses to the highest bidders until the available licenses are exhausted. This technique may be used in conjunction with any type of auction.

§ 24.703 Competitive bidding mechanisms.

(a) *Sequencing.* The Commission will establish and may vary the sequence in which broadband PCS licenses will be auctioned.

(b) *Grouping.* In the event the Commission uses either a simultaneous multiple round competitive bidding design or combinatorial bidding, the Commission will determine which licenses will be auctioned simultaneously or in combination.

(c) *Reservation Price.* The Commission may establish a reservation price, either disclosed or undisclosed, below which a license subject to auction will not be awarded.

(d) *Minimum Bid Increments.* The Commission will, by announcement before or during an auction, require minimum bid increments in dollar or percentage terms.

(e) *Stopping Rules.* The Commission will establish stopping rules before or during multiple round auctions in order to terminate an auction within a reasonable time.

(f) *Activity Rules.* The Commission will establish activity rules which require a minimum amount of bidding activity. In the event that the Commission establishes an activity rule in connection with a simultaneous multiple round auction, each bidder will be entitled to request and will be automatically granted one waiver of such rule during each auction stage.

(g) *Suggested Minimum Bid.* The Commission may establish suggested minimum bids on each license. Bids below the suggested minimum bid would count as activity under the activity rule only if no bids at or above the suggested minimum bid are received.

§ 24.704 Withdrawal, default and disqualification penalties.

(a) When the Commission conducts a simultaneous multiple round auction pursuant to § 24.702(a)(1), the Commission will impose penalties on bidders who withdraw high bids during the course of an auction, who default on payments due after an auction closes, or who are disqualified.

(1) *Bid withdrawal prior to close of auction.* A bidder who withdraws a high bid during the course of an auction will be subject to a penalty equal to the difference between the amount bid and the amount of the winning bid the next time the license is offered by the Commission. No withdrawal penalty would be assessed if the subsequent winning bid exceeds the withdrawn bid. This penalty amount will be deducted from any upfront payments or down payments that the withdrawing bidder was deposited with the Commission.

(2) *Default or disqualification after close of auction.* If a high bidder defaults or is disqualified after the close of such an auction, the defaulting bidder will be subject to the penalty in paragraph (a)(1) of this section plus an additional penalty equal to three (3) percent of the subsequent winning bid. If the subsequent winning bid exceeds the defaulting bidder's bid amount, the 3 percent penalty will be calculated based on the defaulting bidder's bid amount. These amounts will be deducted from any upfront payments or down payments that the defaulting or disqualified bidder has deposited with the Commission.

(b) When the Commission conducts sequential oral auctions pursuant to § 24.702(a)(2), the Commission may modify the penalties set forth in subsection (a) above to be paid in the event of bid withdrawal, default or disqualification; provided, however, that such penalties shall not exceed the penalties specified above.

(1) If a bid is withdrawn before the Commission has declared the bidding to be closed for the license bid on, no bid withdrawal penalty will be assessed.

(2) If a bid is withdrawn after the Commission has declared the bidding to be closed for the license bid on, the penalty specified in paragraph (a)(2) of this section will apply.

§ 24.705 Bidding application (FCC Form 175 and 175–S Short-Form).

All applicants to participate in competitive bidding for broadband PCS licenses must submit applications on FCC Forms 175 and 175–S pursuant to the provisions of §§ 1.2105 of the Chapter and 24.813. The Commission will issue a Public Notice announcing the availability of broadband PCS licenses and, in the event that mutually exclusive applications are filed, the date of the auction for those licenses. This Public Notice also will specify the date on or before which applicants intending to participate in a broadband PCS auction must file their applications in order to be eligible for that auction, and it will contain information necessary for completion of the application as well as other important information such as the materials which must accompany the Forms, any filing fee that must accompany the application or any upfront payment that will need to be

submitted, and the location where the application must be filed.

§ 24.706 Submission of upfront payments and down payments.

(a) Where the Commission uses simultaneous multiple round auctions or oral sequential auctions, bidders will be required to submit an upfront payment in accordance with § 1.2106 of this Chapter and § 24.711(a)(1).

(b) Winning bidders in an auction must submit a down payment to the Commission in accordance with § 1.2107(b) of this Chapter and § 24.711(a)(2).

§ 24.707 Long-form applications.

Each winning bidder will be required to submit a long-form application on FCC Form 401, as modified, within ten (10) business days after being notified that it is the winning bidder. Applications on FCC Form 401 shall be submitted pursuant to the procedures set forth in Subpart I of this Part and § 1.2107 (c) and (d) of this Chapter and any associated Public Notices. Only auction winners (and applicants seeking partitioned licenses pursuant to agreements with auction winners under § 24.714) will be eligible to file applications on FCC Form 401 for initial broadband PCS licenses in the event of mutual exclusivity between applicants filing Form 175. Winning bidders need not complete Schedule B to Form 401.

§ 24.708 License grant, denial, default, and disqualification.

(a) Except with respect to entities eligible for installment payments (*see* § 24.711), each winning bidder will be required to pay the balance of its winning bid in a lump sum payment within five (5) business days following the award of the license. Grant of the license will be conditioned upon full and timely payment of the winning bid amount.

(b) A bidder who withdraws its bid subsequent to the close of bidding, defaults on a payment due or is disqualified will be subject to the penalties specified in § 1.2109 of this Chapter.

§ 24.709 Eligibility for licenses for frequency Blocks C and F.

(a) *General Rule.* (1) No application is acceptable for filing and no license shall be granted for frequency Block C or frequency Block F, unless the applicant, together with its affiliates and persons holding interests in the applicant and their affiliates, have gross revenues of less than $125 million in each of the last two calender years and total assets of less than $500 million at the time the applicant's short-form (Form 175) application is filed.

(2) No application is acceptable for filing and no license shall be granted for frequency Block C or frequency Block F, if, at the time the application is filed, the applicant (or person holding an interest in the applicant) is an individual and he or she (or affiliates) has $100 million or greater in personal net worth at the time the applicant's short-form (Form 175) application is filed.

(3) Any licensee awarded a license pursuant to this section (or pursuant to § 24.839(d)(2)) shall maintain its eligibility until at least five years from the date of initial license grant, except that increased gross revenues, increased total assets or personal net worth due to non-attributable equity investments (*i.e.*, from sources whose revenues, total assets and personal net worth are not considered under paragraph (b)(4) of this section), debt financing, revenue from operations, business development or expanded service shall not be considered.

(b) *Attribution and Aggregation of Gross Revenues, Total Assets, and Personal Net Worth.* (1) Except as specified in paragraphs (b)(3) and (4) of this section, the gross revenues and total assets of the applicant (or licensee) and its affiliates, and other persons that hold interests in the applicant (or licensee) and their affiliates shall be considered on a cumulative basis and aggregated for purposes of determining whether the applicant (or licensee) is eligible for a license for frequency Block C or frequency Block F under this section.

(2) the personal net worth of individual applicants (or licensees) and other persons that hold interests in the applicant (or licensee), and their affiliates, if under the amount in paragraph (a)(2) of this section, shall not be considered for purposes of determining whether the applicant (or licensee) is eligible for a license for frequency Block C or frequency Block F under this section.

(3) Where an applicant (or licensee) is a consortium of small businesses, the gross revenues and total assets of each small business shall not be aggregated.

(4) (i) The gross revenues, total assets and personal net worth of a person that holds an interest in the applicant (or licensee) shall not be considered for purposes of determining financial eligibility so long as:

(A) Such person holds no more than 25 percent of the applicant's (or licensee's) passive equity and is not a member of the applicant's (or licensee's) control group; and

(B) The applicant (or licensee) has a control group that owns at least 25 percent of the applicant's (or licensee's) total equity and, if a corporation, holds at least 50.1 percent of the applicant's (or licensee's) voting interests.

(ii) The gross revenues, total assets and personal net worth of a person that holds an interest in the applicant (or licensee) shall not be considered for purposes of determining financial eligibility so long as:

(A) Such person holds no more than 49.9 percent of the applicant's (or licensee's) passive equity and is not a member of the applicant's (or licensee's) control group; and

(B) The applicant (or licensee) has a control group that consists entirely of members of minority groups and/or women and that owns at least 50.1 percent of the applicant's (or licensee's) total equity and, if a corporation, at least 50.1 percent of the applicant's (or licensee's) voting interests.

(iii) The gross revenues, total assets and personal net worth of a person that holds an interest in the applicant (or licensee) shall not be considered for purposes of determining financial eligibility so long as:

(A) Such person owns no more than 25 percent of the applicant's (or licensee's) total equity, which shall include not more than 15 percent of the voting stock;

(B) The applicant (or licensee) is a publicly traded corporation; and

(C) The applicant (or licensee) has an eligible control group that holds at least 50.1 percent of the voting stock, if a corporation, and at least 25 percent of the applicant's (or licensee's) equity.

Note: Ownership interests shall be calculated on a fully diluted basis; all agreements such as warrants, stock options and convertible debentures will generally be treated as if the rights thereunder already have been fully exercised, except that the such agreements may not be used to appear to terminate or divest ownership interests before they actually do so.

(c) *Short-Form Application Certification; Long-Form Application Disclosure.* (1) All applicants for a license for frequency Block C or frequency Block F shall certify on its short-form application (Form 175) that they are eligible to bid on and obtain licenses in those blocks pursuant to this section.

(2) In addition to the requirements in subpart I, all applicants that are winning bidders on frequency Blocks C and F shall, in an exhibit to their long-form applications—

(i) Identify each member of the applicant's control group, regardless of the size of the member's total interest in

the applicant, and each member's minority group or gender classification, if applicable;

(ii) Disclose the gross revenues and total assets of the applicant and its affiliates, and other persons that hold interests in the applicant and their affiliates (including all members of the applicant's control group), unless exempted under paragraph (b)(4) of this section; and

(iii) Certify that the personal net worth of the applicant (if an individual), each affiliates and each person that hold an interest in the applicant is less than $100 million.

(d) *Audits.* Applicants and licensees claiming eligibility under this section shall be subject to random audits by the Commission.

(e) *Definitions.* The terms *affiliate, business owned by members of minority groups and women, consortium of small businesses, control group, gross revenues, members of minority groups, passive equity, personal net worth, publicly traded corporation, and total assets* used in this section are defined in § 24.720.

§ 24.710 Limitation on licenses won at auction for frequency Blocks C and F.

(a) No applicant may be deemed the winning bidder of more than 98 of the licenses available for frequency Blocks C and F. Any applicant who is the high bidder for more than 98 of the licenses available for frequency Blocks C and F shall be required to withdraw its bid(s) for a sufficient number of licenses to achieve compliance with this section and may be subject to bid withdrawal penalties under § 24.704.

(b) For purposes of paragraph (a) of this section, licenses will be deemed to be won by the same bidder if an entity that controls or has the power to control any applicant that wins licenses at the auction, has the power to control any other applicant that wins licenses at the auction.

§ 24.711 Installment payments for licenses for frequency Blocks C and F.

(a) Except as provided in paragraphs (b), (c) and (d) of this section, an applicant that has $75 million or less in gross revenues in each of the preceding two calendar years and that is a winning bidder for frequency Blocks C or F in a BTA market other than the fifty largest markets and any eligible applicant that is a winning bidder for frequency Blocks C or F in one of the fifty largest BTA markets, may pay the full amount of its winning bid in installments as follows:

(1) Each eligible bidder shall pay an upfront payment of $0.015 per MHz per pop for the maximum number of licenses (in terms of MHz-pops) on which it intends to bid.

(2) Each winning bidder shall make a down payment equal to ten percent of their winning bids; a winning bidder shall bring its total amount on deposit with the Commission (including upfront payment) to five percent of its winning bids within five business days after the auction closes and the remainder of the down payment (five percent) shall be paid within five business days after the application required by § 24.809(b) is granted.

(3) Each eligible licensee shall pay the remainder of its winning bids in installment payments with interest imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 2.5 percent; interest-only payments for the first year; and principal and interest payments amortized over the remaining nine years of the license.

(4) For purposes of determining whether an applicant has $75 million or less in gross revenues, gross revenues shall be attributed to the applicant and aggregated as provided in § 24.709(b), except that § 24.709(b)(4)(iii) shall not apply.

(b) An applicant that qualifies as a business owned by members of minority groups and/or women may pay the full amount of its winning bid in installments in the same manner as in paragraphs (a)(1) and (a)(2) of this section, except that interest-only payments may be paid for the first three years and interest shall be paid at the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted.

(c) An applicant that qualifies as a small business or as a consortium of small businesses may pay the full amount of its winning bid in installments in the same manner as in paragraphs (a)(1) and (a)(2) of this section, except that interest-only payments may be paid for the first two years.

(d) An applicant that qualifies as a small business owned by members of minority groups and/or women or as a consortium of small businesses owned by members of minority groups and/or women may pay the full amount of its winning bid in installments in the same manner as in paragraphs (a)(1) and (a)(2) of this section, except that interest-only payments may be paid for the first five years and interest shall be paid at the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted.

(e) *Unjust Enrichment.* (1) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of its license to an entity not meeting the eligibility standards for installment payments, the licensee must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of assignment or transfer as a condition of approval.

(2) If a licensee that utilizes installment financing under this section seeks to make any change in ownership structure that would result in the licensee losing eligibility for installment payments, the licensee shall first seek Commission approval and must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of assignment or transfer as a condition of approval. Increases in gross revenues or total assets that result from equity investments that are not attributable to the licensee under § 24.709(b)(4), revenues from operations, business development or expanded service shall not be considered changes in ownership structure under this paragraph.

(3) If a licensee seeks to make any change in ownership that would result in the licensee qualifying for a less favorable installment plan under paragraphs (a), (b) or (c) of this section, the licensee shall seek Commission approval and must adjust its payment plan to reflect its new eligibility status under paragraphs (a), (b) or (c) of this section. A licensee may not switch its payment plan to a more favorable plan.

§ 24.712 Bidding credits for licenses for frequency Blocks C and F.

(a) A winning bidder that qualifies as a small business or a consortium of small businesses may use a bidding credit of ten percent to lower the cost of its winning bid.

(b) A winning bidder that qualifies as a business owned by members of minority groups and/or women may use a bidding credit of fifteen percent to lower the cost of its winning bid.

(c) A winning bidder that qualifies as a small business owned by members of minority groups and/or women or a consortium of small business owned by members of minority groups and/or women may use a bidding credit of twenty-five percent to lower the cost of its winning bid.

(d) *Unjust Enrichment.* (1) If a licensee that utilizes a bidding credit under this section seeks to assign or transfer control of its license to an entity not meeting the eligibility standards for bidding credits or seeks to make any other change in ownership that would result in the licensee no longer qualifying for bidding credits under this section, the licensee must seek

Commission approval and reimburse the government for the amount of the bidding credit as a condition of the approval of such assignment, transfer or other ownership change.

(2) If a licensee that utilizes a bidding credit under this section seeks to assign or transfer control of its license to an entity meeting the eligibility standards for lower bidding credit or seeks to make any other change in ownership that would result in the licensee qualifying for a lower bidding credit under this section, the licensee must seek Commission approval and reimburse the government for the difference between the amount of the bidding credit obtained by the licensee and the bidding credit for which the assignee, transferee or licensee is eligible under this section as a condition of the approval of such assignment, transfer or other ownership change.

§ 24.713 Tax certificates.

(a) Any non-controlling initial investor in a business owned by members of minority groups and/or women and who provides "start-up" financing, which allows such business to acquire a broadband PCS license(s), and any non-controlling investor who purchases an interest in a broadband PCS license held by a business owned by members of minority groups and/or women within the first year after license issuance, may, upon the sale or such investment or interest, request from the Commission a tax certificate.

Note: For purposes of this subsection, *non-controlling investor* means any person who is not part of the control group of a business owned by members of minority groups and/or women as defined in § 24.720(k).

(b) Any broadband PCS licensee who assigns or transfer control of its license to a business owned by members of minority groups and/or women may request that the Commission issue the licensee a tax certificate. Any licensee that obtain a broadband PCS license through the benefit of a tax certificates under this subsection shall not assign or transfer control of its license within one year of its license grant date, unless such assignee or transferee qualifies as a business owned by members of minority groups and/or women, which shall not assign or transfer control of the license within one year of the grant date of the assignment or transfer.

(c) Any licensee in the Domestic Public Cellular Radio Telecommunications Service who assigns or transfer control of its cellular license(s) to a business owned by members of minority groups and/or women may request that the Commission issue the licensee a tax certificate. Such tax certificates will only be issued if the principal purpose of the assignment or transfer of control is to allow the cellular licensee to become eligible for a broadband PCS license(s) beyond the limitations imposed on the cellular licensee by § 24.204. Any licensee that obtains a cellular license through the benefit of a tax certificate under this paragraph shall not assign or transfer control of its license within one year of its license grant date, unless such assignee or transferee qualifies as a business owned by members of minority groups and/or women, which shall not assign or transfer control of the license within one year of the grant date of the assignment or transfer.

§ 24.714 Eligibility for partitioned licenses

(a) Notwithstanding § 24.202, an applicant that is a rural telephone company, as defined in § 24.720(e), may be granted a broadband PCS license that is geographically partitioned from a separately licensed MTA or BTA, so long as the MTA or BTA applicant or licensee has voluntarily agreed (in writing) to partition a portion of the license to the rural telephone company.

(b) If partitioned licenses are being applied for in conjunction with a license(s) to be awarded through competitive bidding procedures—

(1) The applicable procedures for filing short-form applications and for submitting upfront payments and down payments contained in this part and part 1 of this Chapter shall be followed by the applicant, who must disclose as part of its short-form application all parties to agreement(s) with or among rural telephone companies to partition the license pursuant to this section, if won at auction (*see* 47 CFR § 1.2105(a)(2)(viii));

(2) Each rural telephone company that is a party to an agreement to partition the license shall file a long-form application for its respective, mutually agreed-upon geographic area together with the application for the remainder of the MTA or BTA filed by the auction winner.

(c) If the partitioned license is being applied for as a partial assignment of the MTA or BTA license following grant of the initial license, request for authorization for partial assignment of a license shall be made pursuant to § 24.839.

(d) Each application for a partitioned area (long-form initial application or partial assignment application) shall contain a partitioning plan that must propose to establish a partitioned area to be licensed that meets the following criteria:

(1) Conforms to established geopolitical boundaries (such as county lines);

(2) Includes the wireline service area of the rural telephone company applicant; and

(3) Is reasonably related to the rural telephone company's wireline service area.

Note: A partitioned service area will be presumed to be reasonably related to the rural telephone company's wireline service area if the partitioned service area contains no more than twice the population overlap between the rural telephone company's wireline service area and the partitioned area.

(e) Each licensee in each partitioned area will be responsible for meeting the construction requirements in its area (*see* § 24.203).

§ 24.720 Definitions.

(a) *Scope.* The definitions in this section apply to §§ 24.709-24.715, unless otherwise specified in those sections.

(b) *Small Business; Consortium of Small Businesses.*

(1) A *small business* is an entity that

(i) Together with its affiliates has average annual gross revenues that are not more than $40 million for the preceding three calendar years;

(ii) Has no attributable investor or affiliate that has a personal net worth of $40 million or more;

(iii) Has a control group all of whose members and affiliates are considered in determining whether the entity meets the $40 million annual gross revenues and personal net worth standards; and

(iv) Such control group holds 50.1 percent of the entity's voting interest, if a corporation, and at least 25 percent of the entity's equity on a fully diluted basis, except that a business owned by members of minority groups and/or women (as defined in paragraph(c) of this section) may also qualify as a small business if a control group that is 100 percent composed of members of minority groups and/or women holds 50.1 percent of the entity's voting interests, if a corporation, and 50.1 percent of the entity's total equity on a fully diluted basis and no single other investor holds more than 49.9 percent of passive equity in the entity. Ownership interests shall be calculated on a fully diluted basis; all agreements such as warrants, stock options and convertible debentures will generally be treated as if the rights thereunder already have been fully exercised, except that the such agreements may not be used to appear to terminate or divest ownership interests before they actually do so.

(2) For purposes of determining whether an entity meets the $40 million gross revenues and $40 million personal net worth standards in paragraph (b)(1) of this section, gross revenues and personal net worth shall be attributed to the entity and aggregated as provided in § 24.709(b), except that § 24.709(b)(4)(iii) shall not apply.

(3) A small business consortium is a conglomerate organization formed as a joint venture between mutually-independent business firms, each of which individually satisfies the definition of a small business in paragraph (b)(1) of this section.

(c) *Business Owned by Members of Minority Groups and/or Women.* A business owned by members of minority groups and/or women is an entity:

(1) That has a control group composed 100 percent of members of minority groups and/or women who are United States Citizens, and

(2) Such control group owns and holds 50.1 percent of the voting interests, if a corporation, and

(i) Owns and holds 50.1 percent of the total equity in the entity, provided that all other investors hold passive interests; or

(ii) Holds 25 percent of the total equity in the entity, provided that no single other investor holds more than 25 percent passive equity interests in the entity. Ownership interests shall be calculated on a fully diluted basis; all agreements such as warrants, stock options and convertible debentures will generally be treated as if the rights thereunder already have been fully exercised, except that such agreements may not be used to appear to terminate or divest ownership interests before they actually do so.

(d) *Small Business Owned by Members of Minority Groups and/or Women; Consortium of Small Businesses Owned by Members of Minority Groups and/or Women.* A small business owned by members of minority groups and/or women is an entity that meets the definitions in both paragraphs (b) and (c) of this section. A consortium of small businesses owned by members of minority groups and/or women a conglomerate organization formed as a joint venture between mutually-independent business firms, each of which individually satisfies the definition of a small business in paragraphs (b)(1) and (c) of this section.

(e) *Rural Telephone Company.* A rural telephone company is a local exchange carrier having 100,000 or fewer access lines, including all affiliates.

(f) *Gross Revenues.* Gross revenues shall mean all income received by an entity, whether earned or passive, before any deductions are made for costs of doing business (*e.g.*, cost of goods sold), as evidenced by audited quarterly financial statements for the relevant period.

(g) *Total Assets.* Total assets shall mean the book value (except where generally accepted accounting principles (GAAP) require market valuation) of all property owned by an entity, whether real or personal, tangible or intangible, as evidenced by the most recent audited quarterly financial statements.

(h) *Personal Net Worth.* Personal net worth shall mean the market value of all assets (real and personal, tangible and intangible) owned by an individual, less all liabilities (including personal guarantees) owned by the individual in his individual capacity or as a joint obligor.

(i) *Members of Minority Groups.* Members of minority groups includes individuals of African American, Hispanic-surnamed, American Eskimo, Aleut, American Indian and Asian American extraction.

(j) *Passive Equity.* Passive equity shall mean:

(1) For corporations, non-voting stock or stock that includes no more than five percent of the voting equity;

(2) For partnerships, joint ventures and other non-corporate entities, limited partnership interests and similar interests that do not afford the power to exercise control of the entity.

(k) *Control Group.* A control group is an entity, or a group of individuals or entities that possesses *de jure* control and *de facto* control of an applicant or licensee, and as to which the applicant's or licensee's charters, bylaws, agreements and any other relevant documents (and amendments thereto) provide:

(1) That the entity and/or its members own unconditionally at least 50.1 percent of the total voting interests of a corporation;

(2) That the entity and/or its members receive at least 50.1 percent of the annual distribution of any dividends paid on the voting stock of a corporation;

(3) That, in the event of dissolution or liquidation of a corporation, the entity and/or its members are entitled to receive 100 percent of the value of each share of stock in its possession and a percentage of the retained earnings of the concern that is equivalent to the amount of equity held in the corporation; and

(4) That the entity and/or its members have the right to receive dividends, profits and regular and liquidating distributions from the business in proportion to its interest in the total equity of the applicant or licensee.

Note: Voting control does not always assure *de facto* control, such as, for example, when the voting stock of the control group is widely dispersed (*see, e.g.*, § 24.270(l)(2)(iii)).

(l) *Affiliate.* (1) An individual or entity is an affiliate of:

(i) An applicant; or

(ii) A person holding an attributable interest in an applicant under § 24.709 (both referred to herein as "the applicant") if such individual or entity—

(A) Directly or indirectly controls or has the power to control the applicant, or

(B) Is directly or indirectly controlled by the applicant, or

(C) Is directly or indirectly controlled by a third party or parties that also controls or has the power to control the applicant, or

(D) Has an "identity of interest" with the applicant.

(2) Nature of *control* in determining affiliation.

(i) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example. An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting stock to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power to control.

(ii) Control can arise through stock ownership; occupancy of director, officer or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(iii) Control can arise through management positions where a concern's voting stock is so widely distributed that no effective control can be established.

Example. In a corporation where the officers and directors own various size blocks of stock totaling 40 percent of the corporation's voting stock, but no officer or director has a block sufficient to give him or

her control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are persons with attributable interests in the applicant, the other entity will be deemed an affiliate of the applicant.

(3) Identity of interest between and among persons. Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or has the power to control a concern, persons with an identity of interest will be treated as though they were one person.

Example. Two shareholders in Corporation Y each have attributable interests in the same PCS applilcation. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. The two shareholders with these common investments (or identity in Interest) are treated as though they are one person and Corporation Y would be deemed an affiliate of the applicant.

(i) Spousal Affiliation. Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States. In calculating their net worth, investors who are legally separated must include their share of interests in property held jointly with a spouse.

(ii) Kinship Affiliation. Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context "immediate family member" means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father or -mother, step-brother or -sister, step-son or -daughter, half brother or sister. This presumption may be rebutted by showing that

(A) The family members are estranged,

(B) The family ties are remote, or

(C) The family members are not closely involved with each other in business matters.

Example. A owns a controlling interest in Corporation X. A's sister-in-law, B, has an attributable interest in a PCS application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation X is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(4) Affiliation through stock ownership.

(i) An applicant is presumed to control or have the power to control a concern if he or she owns or controls or has the power to control 50 percent or more of its voting stock.

(ii) An applicant is presumed to control or have the power to control a concern even though he or she owns, controls or has the power to control less than 50 percent of the concern's voting stock, if the block of stock he or she owns, controls or has the power to control is large as compared with any other outstanding block of stock.

(iii) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(5) Affiliation arising under stock options, convertible debentures, and agreements to merge. Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements are generally treated as though the rights held thereunder had been exercised. However, an affiliate cannot use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1. If company B holds an option to purchase a controlling interest in company A, who holds an attributable interest in a PCS application, the situation is treated as though company B had exercised its rights and had become owner of a controlling interest in company A. The gross revenues of company B must be taken into account in determining the size of the applicant.

Example 2. If a large company, BigCo, holds 70% (70 of 100 outstanding shares) of the voting stock of company A, who holds an attributable interest in a PCS application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company A, and thus the applicant, until SmallCo actually exercises its option to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule which requires such options to be considered on a fully diluted basis, the option is not considered to have present effect in this case.

Example 3. If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(6) Affiliation under voting trusts.

(i) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will.

(ii) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(iii) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(7) Affiliation through common management. Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors and/or the management of another entity.

(8) Affiliation through common facilities. Affiliation generally arises where one concern shares office space and/or employees and/or other facilities with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through these sharing arrangements one concern has control, or potential control, of the other concern.

(9) Affiliation through contractual relationships. Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(10) Affiliation under joint venture arrangements.

(i) A joint venture for size determination purposes is an association of concerns and/or individuals, with interests in any degree or proportion, formed by contract, express or implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge,

but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(ii) The parties to a joint venture are considered to be affiliated with each other.

(m) *Publicly Traded Corporation. A publicly traded corporation* is a business entity organized under the laws of the United States whose shares, debt or other ownership interests are traded on an organized securities exchange within the United States.

4. A new subpart I consisting of §§ 24.801 through 24.844 is added to Part 24 to read as follows:

Subpart I—Interim Application, Licensing, and Processing Rules for Broadband PCS

Sec.

24.801 [Reserved]
24.802 [Reserved]
24.803 Authorization required.
24.804 Eligibility.
24.805 Formal and informal applications.
24.806 Filing of broadband PCS applications; Fees; Number of copies.
24.807 [Reserved]
24.808 [Reserved]
24.809 Standard application forms and permissive changes or minor modifications for the broadband Personal Communications Services.
24.810 [Reserved]
24.811 Miscellaneous forms.
24.812 [Reserved]
24.813 General application requirements.
24.814 [Reserved]
24.815 Technical content of applications; maintenance of list of station locations.
24.816 Station antenna structures.
24.817 [Reserved]
24.818 [Reserved]
24.819 Waiver of rules.
24.820 Defective applications.
24.821 Inconsistent or conflicting applications.
24.822 Amendment of application to participate in auction for licenses in the broadband Personal Communications Services filed on FCC Form 175.
24.823 Amendment of applications for licenses in the broadband Personal Communications Services (other than applications filed on FCC Form 175).
24.824 [Reserved]
24.825 Application for temporary authorizations.
24.826 Receipt of application; applications in the broadband Personal Communications Services filed on FCC Form 175 and other applications in the broadband Personnel Communications Services.
24.827 Public notice period.
24.828 Dismissal and return of applications.
24.829 Ownership changes and agreements to amend or to dismiss applications or pleadings.
24.830 Opposition to applications.
24.831 Mutually exclusive applications.
24.832 Consideration of applications.
24.833 [Reserved]
24.834 [Reserved]
24.835 [Reserved]
24.836 [Reserved]
24.837 [Reserved]
24.838 [Reserved]
24.839 Transfer of control or assignment of license.
24.840 [Reserved]
24.841 [Reserved]
24.842 [Reserved]
24.843 Extension of time to complete construction.
24.844 Termination of authorization.

Subpart I—Interim Application, Licensing, and Processing Rules for Broadband PCS

§ 24.801 [Reserved]

§ 24.802 [Reserved]

§ 24.803 Authorization required.

No person shall use or operate any device for the transmission of energy or communications by radio in the services authorized by this part except as provided in this part.

§ 24.804 Eligibility.

(a) General. Authorizations will be granted upon proper application if:

(1) The applicant is qualified under all applicable laws and Commission regulations, policies and decisions;

(2) There are frequencies available to provide satisfactory service; and

(3) The public interest, convenience or necessity would be served by a grant.

(b) Alien ownership. A broadband PCS authorization to provide Commercial Mobile Radio Service may not be granted to or held by:

(1) Any alien or the representative of any alien.

(2) Any corporation organized under the laws of any foreign government.

(3) Any corporation of which any officer or director is an alien or of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or any corporation organized under the laws of a foreign country.

(4) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, or of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

(c) A broadband PCS authorization to provide Private Mobile Radio Service may not be granted to or held by a foreign government or a representative thereof.

§ 24.805 Formal and informal applications.

(a) Except for an authorization under any of the conditions stated in Section 308(a) of the Communications Act of 1934 (47 U.S.C. § 308(a)), the Commission may grant the following authorizations only upon written application received by it: station licenses; modifications of licenses; renewals of licenses; transfers and assignments of station licenses, or any right thereunder.

(b) Except as may be otherwise permitted by this part, a separate written application shall be filed for each instrument of authorization requested. Applications may be:

(1) "Formal applications" where the Commission has prescribed in this Part a standard form; or

(2) "Informal applications" (normally in letter form) where the Commission has not prescribed a standard form.

(c) An informal application will be accepted for filing only if:

(1) A standard form is not prescribed or clearly applicable to the authorization requested;

(2) It is a document submitted, in duplicate, with a caption which indicates clearly the nature of the request, radio service involved, location of the station, and the application file number (if known); and

(3) It contains all the technical details and informational showings required by the rules and states clearly and completely the facts involved and authorization desired.

§ 24.806 Filing of broadband PCS applications; Fees; Numbers of copies.

(a) As prescribed by §§ 24.705, 24.707 and 24.809, standard formal application forms applicable to broadband PCS may be obtained from either:

(1) Federal Communications Commission, Washington, DC 20554, or

(2) By calling the Commission's Forms Distribution Center, (202) 632–3676.

(b) Applications to participate in competitive bidding for broadband PCS service must be filed on FCC Form 175 in accordance with the rules in § 24.705 and Part 1, Subpart Q of this Chapter. In the event of mutual exclusivity

between applicants filing FCC Form 175, only auction winners will be eligible to file subsequent long-form applications on FCC Form 401 to provide broadband PCS service. Mutually exclusive applications filed on FCC Form 175 are subject to competitive bidding under those rules. Broadband PCS applicants filing FCC Form 401 need not complete Schedule B.

(c) All applications for broadband PCS licenses (other than applications to participate in competitive bidding filed on FCC Form 175) shall be submitted for filing to: Federal Communications Commission, Washington, DC 20554, Attention: Broadband PCS Processing Section.

Applications requiring fees as set forth at Part 1, Subpart G of this chapter must be filed in accordance with § 0.401(b) of this Chapter.

(d) All correspondence or amendments concerning a submitted application shall clearly identify the name of the applicant, applicant identification number or Commission file number (if known) or station call sign of the application involved, and may be sent directly to the Common Carrier Bureau, Broadband PCS Processing Section.

(e) Except as otherwise specified, all applications, amendments, correspondence, pleadings and forms (including FCC Form 175) shall be submitted on one original paper copy and with three microfiche copies, including exhibits and attachments thereto, and shall be signed as prescribed by § 1.743 of this Chapter. Filings of five pages or less are exempt from the requirement to submit on microfiche, as are emergency filings such as letters requesting special temporary authority. Those filing any amendments, correspondence, pleadings and forms must simultaneously submit the original hard copy which must be stamped "original". Abbreviations may be used if they are easily understood. In addition to the original hard copy, those filing pleadings, including pleadings under § 1.2108 of this Chapter, shall also submit two paper copies as provided in § 1.51 of this Chapter.

(1) Microfiche copies. Each microfiche copy must be a copy of the signed original. Each microfiche copy shall be a 148mm x 105mm negative (clear transparent characters appearing on an opaque background) at 24x to 27x reduction for microfiche or microfiche jackets. One of the microfiche sets must be a silver halide camera master or a copy made on silver halide film such as Kodak Direct Duplicatory Film. The microfiche must be placed in paper microfiche envelopes and submitted in a B6 (125 mm x 176 mm) or 5 x 7.5 inch envelope. All applicants must leave Row "A" (the first row for page images) of the first fiche blank for in-house identification purposes. Each microfiche copy of pleadings shall include:

(i) The month and year of the document;

(ii) The name of the document;

(ii) The name of the filing party;

(iv) The file number, applicant identification number, and call sign, if assigned;

(v) The identification number and date of the Public Notice announcing the auction in response to which the application was filed (if applicable).

(2) All applications and all amendments must have the following information printed on the mailing envelope, the microfiche envelope, and on the title area at the top of the microfiche:

(i) The name of the applicant;

(ii) The type of application (*e.g.*, 30 MHz MTA, 30 MHz BTA, 10 MHz BTA);

(iii) The month and year of the document;

(iv) The name of the document;

(v) The file number, applicant identification number, and call sign, if assigned; and

(vi) The identification number and date of the Public Notice announcing the auction in response to which the application was filed (if applicable).

§ 24.807 [Reserved]

§ 24.808 [Reserved]

§ 24.809 Standard application forms and permissive changes or minor modifications for the broadband Personal Communications Services.

(a) Applications to participate in competitive bidding for broadband PCS licenses must be filed on FCC Forms 175 and 175–S.

(b) Subsequent application by auction winners or non-mutually exclusive applicants for broadband PCS licenses under Part 24. FCC Form 401 ("Application for New or Modified Common Carrier Radio Station Under Part 22") shall be submitted by each auction winner for each broadband PCS license applied for on FCC Form 175. In the event that mutual exclusivity does not exist with respect to a license identified on an applicant's FCC Form 175, the Commission will so inform the applicant and the applicant will also file FCC Form 401. Blanket licenses are granted for each market frequency block. Applications for individual sites are not needed and will not be accepted. *See* § 24.11. Broadband PCS applicants filing FCC Form 401 need not complete Schedule B.

(c) Extensions of time and reinstatement. When a licensee cannot complete construction in accordance with the provisions of § 24.203, a timely application for extension of time (FCC Form 489) must be filed.

(d) License for mobile subscriber station—These stations are considered to be associated with and covered by the authorization issued to the carrier serving the land mobile station. No additional authorization is required.

§ 24.810 [Reserved]

§ 24.811 Miscellaneous forms.

(a) *Licensee qualifications.* FCC Form 430 ("Common Carrier and Satellite Radio Licensee Qualifications Report") shall be filed by broadband Personal Communications Service licensees only as required by Form 490 (Application for Assignment or Transfer of Control Under Part 22).

(b) *Renewal of station license.* Except for renewal of special temporary authorizations, FCC Form 405 ("Application for Renewal of Station License") must be filed in duplicate by the licensee between thirty (30) and sixty (60) days prior to the expiration date of the license sought to be renewed.

§ 24.812 [Reserved]

§ 24.813 General application requirements.

(a) Each application (including applications filed on Forms 175 and 401) for a broadband PCS license or for consent to assign or transfer control of a broadband PCS license shall disclose fully the real party or parties in interest and must include in an exhibit the following information:

(1) A list of any business five percent or more of whose stock, warrants, options or debt securities are owned by the applicant or an officer, director, stockholder or key management personnel of the applicant. This list must include a description of each such business's principal business and a description of each such business's relationship to the applicant.

(2) A list of any party which holds a five percent or more interest in the applicant, or any entity in which a five percent or more interest is held by another party which holds a five percent or more interest in the applicant (*e.g.*, if Company A owns 5% of Company B (the applicant) and 5% of Company C, then Companies A and C must be listed on Company B's application).

(3) A list of the names, addresses, citizenship and principal business of any person holding five percent or more of each class of stock, warrants, options

or debt securities together with the amount and percentage held, and the name, address, citizenship and principal place of business of any person on whose account, if other than the holder, such interest is held. If any of these persons are related by blood or marriage, include such relationship in the statement.

(4) In the case of partnerships, the name and address of each partner, each partner's citizenship and the share or interest participation in the partnership. This information must be provided for all partners, regardless of their respective ownership interests in the partnership. A signed and dated copy of the partnership agreement must be included in the application.

(b) Each application for a broadband PCS license must:

(1) Submit the information required by the Commission's Rules, requests and application forms;

(2) Be maintained by the applicant substantially accurate and complete in all significant respects in accordance with the provisions of § 1.65 of this chapter.

(3) Show compliance with and make all special showings that may be applicable;

(c) Where documents, exhibits, or other lengthy showings already on file with the Commission contain information which is required by an application form, the application may specifically refer to such information, if:

(1) The information previously filed is over one A4 (21 cm x 29.7 cm) or 8.5 x 11 inch (21.6 cm x 27.9 cm) page in length, and all information referenced therein is current and accurate in all significant respects under § 1.65 of this chapter; and

(2) The reference states specifically where the previously filed information can actually be found, including mention of:

(i) The station call sign or application file number whenever the reference is to station files or previously filed applications; and

(ii) The title of the proceeding, the docket number, and any legal citations, whenever the reference is to a docketed proceeding.

However, question on an application form which call for specific technical data, or which can be answered by a "yes" or "no" or other short answer shall be answered as appropriate and shall not be cross-referenced to a previous filing.

(d) In addition to the general application requirements of Subpart F and §§ 1.2105 of this Chapter, 24.813 and 24.815, applicants shall submit any additional documents, exhibits, or signed written statements of fact:

(1) As may be required by these rules; and

(2) As the Commission, at any time after the filing of an application and during the term of any authorization, may require from any applicant, permittee or licensee to enable it to determine whether a radio authorization should be granted, denied or revoked.

(e) Except when the Commission has declared explicitly to the contrary, an informational requirement does not in itself imply the processing treatment of decisional weight to be accorded the response.

(f) All applicants (except applicants filing FCC Form 175) are required to indicate at the time their application is filed whether or not a Commission grant of the application may have a significant environmental impact as defined by § 1.1307 of this Chapter. If answered affirmatively, the requisite environmental assessment as prescribed in § 1.1311 of this Chapter must be filed with the application and Commission environmental review must be completed prior to construction. *See* § 1.1312 of this chapter. All broadband PCS licensees are subject to continuing obligation to determine whether subsequent construction may have a significant environmental impact prior to undertaking such construction and to otherwise comply with § 1.1301 through 1.1319 of this Chapter. *See* § 1.1312 of this Chapter.

§ 24.814 [Reserved]

§ 24.815 Technical content of applications; maintenance of list of station locations.

(a) All applications required by this part shall contain all technical information required by the application forms or associated Public Notice(s). Applications other than initial applications for a broadband PCS license must also comply with all technical requirements of the rules governing the broadband PC (*see* Subparts C and E of this Part as appropriate). The following paragraphs describe a number of general technical requirements.

(b) Each application (except applications for initial licenses filed on Form 175) for a license for broadband PCS must comply with the provisions of §§ 24.229–24.238 of the Commission's Rules.

(c)–(i) [Reserved]

(j) The location of the transmitting antenna shall be considered to be the station location. Broadband PCS licensees must maintain a current list of all station locations, which must describe the transmitting antenna site by its geographical coordinates and also by conventional reference to street number, landmark, or the equivalent. All such coordinates shall be specified in terms of degrees, minutes, and seconds to the nearest second of latitude and longitude.

§ 24.816 Station antenna structures.

(a) Unless the broadband PCS licensee has received prior approval from the FCC, no antenna structure, including radiating elements, tower, supports and all appurtenances, may be higher than 61 m (200 feet) above ground level at its site.

(b) Unless the broadband PCS licensee has received prior approval from the FCC, no antenna structure that is located either at an airport or heliport that is available for public use and is listed in the *Airport Directory* of the current *Airman's Information Manual* or in either the *Alaska* or *Pacific Airman's Guide and Chart Supplement*, or at an airport or heliport under construction that is the subject of a notice or proposal on file with the FAA and, except for military airports, it is clearly indicated that the airport will be available for public use, or at an airport or heliport that is operated by the armed forces of the United States, or at a place near any of these airports or heliports, may be higher than:

(1) 1 m above the airport elevation for each 100 m from the airport runway longer than 1 km within 6.1 km of the antenna structure.

(2) 2 m above the airport elevation for each 100 m from the nearest runway shorter than 1 km within 3.1 km of the antenna structure.

(3) 4 m above the airport elevation for each 100 m from the nearest landing pad within 1.5 km of the antenna structure.

(c) A broadband PCS station antenna structure no higher than 6.1 m (20 feet) above ground level at its site or no higher than 6.1 m above any natural object or existing manmade structure, other than an antenna structure, is exempt from the requirements of paragraphs (a) and (b) of this section.

(d) Further details as to whether an aeronautical study and/or obstruction marking and lighting may be required, and specifications for obstruction marking and lighting, are contained in Part 17 of the FCC Rules, *Construction, Marking and Lighting of Antenna Structures*. To request approval to place an antenna structure higher than the limits specified in paragraph (a), (b), and (c) of this section, the licensee must notify the Federal Aviation

Administration (FAA) on FAA Form 7460–1 and the FCC on FCC Form 854.

§§ 24.817–24.818 [Reserved]

24.819 Waiver of rules.

(a) Requests for waiver.

(1) A waiver of these rules may be granted upon application or by the Commission on its own motion. Requests for waivers shall contain a statement of reason sufficient to justify a waiver. Waivers will not be granted except upon an affirmative showing:

(i) That the underlying purpose of the rule will not be served, or would be frustrated, by its application in a particular case, and that grant of the waiver is otherwise in the public interest; or

(ii) That the unique facts and circumstances of a particular case render application of the rule inequitable, unduly burdensome or otherwise contrary to the public interest. Applicants must also show the lack of a reasonable alternative.

(2) If the information necessary to support a waiver request is already on file, the applicant may cross-reference to the specific filing where it may be found.

(b) Denial of waiver, alternate showing required. If a waiver is not granted, the application will be dismissed as defective unless the applicant has also provided an alternative proposal which complies with the Commission's rules (including any required showings).

§ 24.820 Defective applications.

(a) Unless the Commission shall otherwise permit, an application will be unacceptable for filing and will be returned to the applicant with a brief statement as to the omissions or discrepancies if:

(1) The application is defective with respect to completeness of answers to questions, informational showings, execution or other matters of a formal character; or

(2) The application does not comply with the Commission's rules, regulations, specific requirements for additional information or other requirements. *See also* § 1.2105 of this Chapter.

(b) Some examples of common deficiencies which result in defective applications under paragraph (a) of this section are:

(1) The application is not filled out completely and signed;

(2)–(4) [Reserved]

(5) The application (other an application filed on FCC Form 175) does not include an environmental assessment as required for an action that may have a significant impact upon the environment, as defined in § 1.1307 of this chapter.

(6) [Reserved]

(7) The application is filed prior to the Public Notice issued under § 24.705, announcing the application filing date for the relevant auction or after the cutoff date prescribed in that Public Notice.

(c) [Reserved]

(d) If an applicant is requested by the Commission to file any documents or any supplementary or explanatory information not specifically required in the prescribed application form, a failure to comply with such request within a specified time period will be deemed to render the application defective and will subject it to dismissal.

§ 24.821 Inconsistent or conflicting applications.

While an application is pending and undecided, no subsequent inconsistent or conflicting application may be filed by the same applicant, its successor or assignee, or on behalf or for the benefit of the same applicant, its successor or assignee.

§ 24.822 Amendment of application to participate in auction for licenses in the broadband Personal Communications Services filed on FCC Form 175.

(a) The Commission will provide bidders a limited opportunity to cure defects in FCC Form 175 specified herein except for failure to sign the application and to make certifications, defects which may not be cured. *See also* § 1.2105 of this Chapter.

(b) In the broadband PCS, the only amendments to FCC Form 175 which will be permitted are minor amendments to correct minor errors or defects such as typographical errors. All other amendments to FCC Form 175, such as changes in the information supplied pursuant to § 24.813(a) or changes in the identification of parties to bidding consortia, will be considered to be major amendments. An FCC Form 175 which is amended by a major amendment will be considered to be newly filed and cannot be resubmitted after applicable filing deadlines. *See also* § 1.2105 of this Chapter.

§ 24.823 Amendment of applications for licenses in the broadband Personal Communications Services (other than applications filed on FCC Form 175).

(a) Amendments as of right. A pending application may be amended as a matter of right if the application has not been designated for hearing.

(1) Amendments shall comply with § 24.829, as applicable; and

(2) Amendments which resolve interference conflicts or amendments under § 24.829 may be filed at any time.

(b) The Commission or the presiding officer may grant requests to amend an application designated for hearing only if a written petition demonstrating good cause is submitted and properly served upon the parties of record.

(c) Major amendments, minor amendments. The Commission will classify all amendments as minor except in the cases listed below. An amendment shall be deemed to be a major amendment subject to § 24.827 if it proposes a substantial change in ownership or control.

(d) If a petition to deny (or other formal objection) has been filed, any amendment, request for waiver or other written communication shall be served on the petitioner, unless waiver of this requirement is granted pursuant to paragraph (e) of this section. *See also* § 1.2108 of this Chapter.

(e) The Commission may waive the service requirements of paragraph (d) of this section and prescribe such alternative procedures as may be appropriate under the circumstances to protect petitioners' interests and to avoid undue delay in a proceeding, if an applicant submits a request for waiver which demonstrates that the service requirement is unreasonably burdensome.

(f) Any amendment to an application shall be signed and shall be submitted in the same manner, and with the same number of copies, as was the original application. Amendments may be made in letter form if they comply in all other respects with the requirements of this chapter.

(g) An application will be considered to be a newly-filed application if it is amended by a major amendment (as defined in this section), except in the following circumstances:

(1) [Reserved]

(2) [Reserved]

(3) The amendment reflects only a change in ownership or control found by the Commission to be in the public interest;

(4) [Reserved]

(5) The amendment corrects typographical transcription or similar clerical errors which are clearly demonstrated to be mistakes by reference to other parts of the application, and whose discovery does not create new or increased frequency conflicts;

§ 24.824 [Reserved]

§ 24.825 Application for temporary authorizations.

(a) In circumstances requiring immediate or temporary use of facilities, request may be made for special temporary authority to install and/or operate new or modified equipment. Any such request may be submitted as an informal application in the manner set forth in § 24.805 and must contain full particulars as to the proposed operation including all facts sufficient to justify the temporary authority sought and the public interest therein. No such request will be considered unless the request is received by the Commission at least 10 days prior to the date of proposed construction or operation or, where an extension is sought, at least 10 days prior to the expiration date of the existing temporary authorization. The Commission may accept a late-filed request upon due showing of sufficient reasons for the delay in submitting such request.

(b) Special temporary authorizations may be granted without regard to the 30-day public notice requirements of § 24.827(b) when:

(1) The authorization is for a period not to exceed 30 days and no application for regular operation is contemplated to be filed;

(2) The authorization is for a period not to exceed 60 days pending the filing of an application for such regular operation;

(3) The authorization is to permit interim operation to facilitate completion of authorized construction or to provide substantially the same service as previously authorized; or

(4) The authorization is made upon a finding that there are extraordinary circumstances requiring operation in the public interest and that delay in the institution of such service would seriously prejudice the public interest.

(c) Temporary authorizations of operation not to exceed 180 days may be granted under the standards of Section 309(f) of the Communications Act where extraordinary circumstances so require. Extensions of the temporary authorization for a period of 180 days each may also be granted, but the applicant bears a heavy burden to show that extraordinary circumstances warrant such an extension.

(d) In cases of emergency found by the Commission, involving danger to life or property or due to damage of equipment, or during a national emergency proclaimed by the president or declared by the Congress or during the continuance of any war in which the United States is engaged and when such action is necessary for the national defense or safety or otherwise in furtherance of the war effort, or in cases of emergency where the Commission finds that it would not be feasible to secure renewal applications from existing licensees or otherwise to follow normal licensing procedure, the Commission will grant radio station authorizations and station licenses, or modifications or renewals thereof, during the emergency found by the Commission or during the continuance of any such national emergency or war, as special temporary licenses, only for the period of emergency or war requiring such action, without the filing of formal applications.

§ 24.826 Receipt of application; Applications in the broadband Personal Communications Services filed on FCC Form 175 and other applications in the broadband Personal Communications Services.

(a) All applications for the initial provision of broadband PCS must be submitted on FCC Forms 175 and 175–S. Mutually exclusive initial applications in the broadband Personal Communications Services are subject to competitive bidding. FCC Form 401 ("Application for New or Modified Common Carrier Radio Station Under Part 22") must be submitted by each winning bidder for each broadband PCS license for which application was made on FCC Form 175. In the event that mutual exclusivity does not exist between applicants for a broadband PCS license that have filed FCC Form 175, the sole applicant will be required to file FCC Form 401. The aforementioned Forms 175, 175–S, and 401 are subject to the provisions of 47 CFR Part 1, Subpart Q ("Competitive Bidding Proceedings") and Subpart H of this Part. Blanket licenses are granted for each market frequency block. Applications for individual sites are not needed and will not be accepted. *See* § 24.11.

(b) Applications received for filing are given a file number. The assignment of a file number to an application is merely for administrative convenience and does not indicate the acceptance of the application for filing and processing. Such assignment of a file number will not preclude the subsequent return or dismissal of the application if it is found to be not in accordance with the Commission's Rules.

(c) Acceptance of an application for filing merely means that it has been the subject of a preliminary review as to completeness. Such acceptance will not preclude the subsequent return or dismissal of the application if it is found to be defective or not in accordance with the Commission's rules. (*See* § 24.813 for additional information concerning the filing of applications.)

§ 24.827 Public notice period.

(a) At regular intervals, the Commission will issue a public notice listing:

(1) The acceptance for filing of all applications and major amendments thereto;

(2) Significant Commission actions concerning applications listed as acceptable for filing;

(3) Information which the Commission in its discretion believes of public significance. Such notices are intended solely for the purpose of informing the public and do not create any rights in an applicant or any other person.

(4) Special environmental considerations as required by Part 1 of this chapter.

(b) The Commission will not grant any application until expiration of a period of thirty (30) days following the issuance date of a public notice listing the application, or any major amendments thereto, as acceptable for filing; provided, however, that the Commission will not grant an application filed on Form 401 filed either by a winning bidder or by an applicant whom Form 175 application is not mutually exclusive with other applicants, until the expiration of a period of forty (40) days following the issuance of a public notice listing the application, or any major amendments thereto, as acceptable filing. *See also § 1.2108 of this Chapter.*

(c) As an exception to paragraphs (a)(1), (a)(2) and (b) of this section, the public notice provisions are not applicable to applications:

(1) For authorization of a minor technical change in the facilities of an authorized station where such a change would not be classified as a major amendment (as defined by § 24.823) were such a change to be submitted as an amendment to a pending application;

(2) For issuance of a license subsequent to a radio station authorization or, pending application for a grant of such license, any special or temporary authorization to permit interim operation to facilitate completion of authorized construction or to provide substantially the same service as would be authorized by such license;

(3) For extension of time to complete construction of authorized facilities (*see* § 24.203;

(4) For temporary authorization pursuant to § 24.825(b);

(5) [Reserved]

(6) For an authorization under any of the proviso clauses of Section 308(a) of the Communications Act of 1934 (47 U.S.C. 308(a));

(7) For consent to an involuntary assignment or transfer of control of a radio authorization; or

(8) For consent to a voluntary assignment or transfer of control of a radio authorization, where the assignment or transfer does not involve a substantial change in ownership or control.

§ 24.828 Dismissal and return of applications.

(a) Except as provided under § 24.829, any application may be dismissed without prejudice as a matter of right if the applicant requests its dismissal prior to designation for hearing or, in the case of applications filed on Forms 175 and 175–S, prior to auction. An applicant's request for the return of his application after it has been accepted for filing will be considered to be a request for dismissal without prejudice. Applicants requesting dismissal of their applications may be subject to penalties contained in § 1.2104 of this Chapter. Requests for dismissal shall comply with the provisions of § 24.829 as appropriate.

(b) A request to dismiss an application without prejudice will be considered after designation for hearing only if:

(1) A written petition is submitted to the Commission and is properly served upon all parties of record, and

(2) The petition complies with the provisions of § 24.829 (whenever applicable) and demonstrates good cause.

(c) The Commission will dismiss an application for failure to prosecute or for failure to respond substantially within a specified time period to official correspondence or requests for additional information. Dismissal shall be without prejudice if made prior to designation for hearing or prior to auction, but dismissal may be made with prejudice for unsatisfactory compliance with § 24.829 or after designation for hearing or after the applicant is notified that it is the winning bidder under the auction process.

§ 24.829 Ownership changes and agreements to amend or to dismiss applications or pleadings.

(a) Applicability. Subject to the provisions of § 1.2105 of this Chapter (Bidding Application and Certification Procedures; Prohibition of Collusion), this section applies to applicants and all other parties interested in pending applications who wish to resolve contested matters among themselves with a formal or an informal agreement or understanding. This section applies only when the agreement or understanding will result in:

(1) A major change in the ownership of an applicant to which §§ 24.823(c) and 24.823(g) apply or which would cause the applicant to lose its status as a designated entity under § 24.709, or

(2) The individual or mutual withdrawal, amendment or dismissal of any pending application amendment, petition or other pleading.

(b) Policy. Parties to contested proceedings are encouraged to settle their disputes among themselves. Parties that, under a settlement agreement, apply to the Commission for ownership changes or for the amendment or dismissal of either pleadings or applications shall at the time of filing notify the Commission that such filing is the result of an agreement or understanding.

(c) The provisions of § 22.927 of the Commission's Rules will apply in the event of the filing of petitions to deny or other pleadings or informal objections filed against broadband PCS applications. The provisions of § 22.928 of the Commission's Rules will apply in the event of dismissal of broadband PCS applications. The provisions of § 22.929 of the Commission's Rules will apply in the event of threats to file petitions to deny or other pleadings or informal objections against broadband PCS applications.

§ 24.830 Opposition to applications.

(a) Petitions to deny (including petitions for other forms of relief) and responsive pleadings for Commission consideration must comply with § 1.2108 of this Chapter and must:

(1) Identify the application or applications (including applicant's name, station location, Commission file numbers and radio service involved) with which it is concerned;

(2) Be filed in accordance with the pleading limitations, filing periods, and other applicable provisions of §§ 1.41 through 1.52 of this Chapter except where otherwise provided in § 1.2108 of this Chapter;

(3) Contain specific allegations of fact which, except for facts of which official notice may be taken, shall be supported by affidavit of a person or persons with personal knowledge thereof, and which shall be sufficient to demonstrate that the petitioner (or respondent) is a party in interest and that a grant of, or other Commission action regarding, the application would be *prima facie* inconsistent with the public interest;

(4) Be filed within thirty (30) days after the date of public notice announcing the acceptance for filing of any such application or major amendment thereto (unless the Commission otherwise extends the filing deadline); and

(5) Contain a certificate of service showing that it has been mailed to the applicant no later than the date of filing thereof with the Commission.

(b) A petition to deny a major amendment to a previously-filed application may only raise matters directly related to the amendment which could not have been raised in connection with the underlying previously-filed application. This subsection does not apply, however, to petitioners who gain standing because of the major amendment.

§ 24.831 Mutually exclusive applications.

(a) The Commission will consider applications for broadband PCS licenses to be mutually exclusive if they relate to the same geographical boundaries (MTA or BTA) and are timely filed for the same frequency block.

(b) Mutually exclusive applications filed on Form 175 for the initial provision of broadband PCS are subject to competitive bidding in accordance with the procedures in Subpart H of this part and in Part 1, Subpart Q of this Chapter.

(c) An application will be entitled to comparative consideration with one or more conflicting applications only if the Commission determines that such comparative consideration will serve the public interest.

(d)–(j) [Reserved]

§ 24.832 Consideration of applications.

(a) Applications for an instrument of authorization will be granted if, upon examination of the application and upon consideration of such other matters as it may officially notice, the Commission finds that the grant will serve the public interest, convenience and necessity. *See also* § 1.2108 of this Chapter.

(b) The grant shall be without a formal hearing if, upon consideration of the application, any pleadings or objections filed, or other matters which may be officially noticed, the Commission finds that:

(1) The application is acceptable for filing and is in accordance with the Commission's rules, regulations and other requirements;

(2) The application is not subject to a post-auction hearing or to comparative consideration pursuant to § 24.831 with another application(s);

(3) A grant of the application would not cause harmful electrical interference to an authorized station;

(4) There are no substantial and material questions of fact presented; and

(5) The applicant is qualified under current FCC regulations and policies.

(c) If the Commission should grant without a formal hearing an application for an instrument of authorization which is subject to a petition to deny filed in accordance with § 24.830, the Commission will deny the petition by the issuance of a Memorandum Opinion and Order which will concisely state the reasons for the denial and dispose of all substantial issues raised by the petition.

(d) Whenever the Commission, without a formal hearing, grants any application in part, or subject to any terms or conditions other than those normally applied to applications of the same type, it shall inform the applicant of the reasons therefor, and the grant shall be considered final unless the Commission revises its action (either by granting the application as originally requested, or by designating the application for a formal evidentiary hearing) in response to a petition for reconsideration which:

(1) Is filed by the applicant within thirty (30) days from the date of the letter or order giving the reasons for the partial or conditioned grant;

(2) Rejects the grant as made and explains the reasons why the application should be granted as originally requested; and

(3) Returns the instrument of authorization.

(e) The Commission will designate an application for a formal hearing, specifying with particularity the matters and things in issue, if upon consideration of the application, any pleadings or objections filed or other matters which may be officially noticed, the Commission determines that:

(1) A substantial and material question of fact is presented (*see also* § 1.2108 of this Chapter);

(2) The Commission is unable for any reason to make the findings specified in paragraph (a) of this section and the application is acceptable for filing, complete and in accordance with the Commission's rules, regulations and other requirements; or

(3) The application is entitled to comparative consideration (under § 24.831) with another application (or applications).

(f) The Commission may grant, deny or take other action with respect to an application designated for a formal hearing pursuant to paragraph (e) of this section or Part 1 of this Chapter.

(g) [Reserved]

(h) Reconsideration or review of any final action taken by the Commission will be in accordance with Subpart A of Part 1 of this Chapter.

§ 24.833–24.838 [Reserved]

§ 24.839 Transfer of control or assignment of license.

(a) Approval required. Authorizations shall be transferred or assigned to another party, voluntarily (for example, by contract) or involuntarily (for example, by death, bankruptcy or legal disability), directly or indirectly or by transfer of control of any corporation holding such authorization, only upon application and approval by the Commission. A transfer of control or assignment of station authorization in the broadband Personal Communications Service is also subject to §§ 24.711(e), 24.712(d), 24.713(b) (unjust enrichment) and 1.2111(a) of this Chapter (reporting requirement).

(1) A change from less than 50% ownership to 50% or more ownership shall always be considered a transfer of control.

(2) In other situations a controlling interest shall be determined on a case-by-case basis considering the distribution of ownership and the relationships of the owners, including family relationships.

(b) Forms required.

(1) Assignment.

(i) FCC Form 490 shall be filed to assign a license or permit.

(ii) In the case of involuntary assignment, FCC Form 490 shall be filed within thirty (30) days following the event giving rise to the assignment.

(2) Transfer of control.

(i) FCC Form 490 shall be submitted in order to transfer control of a corporation holding a license or permit.

(ii) In the case of involuntary transfer of control, FCC Form 490 shall be filed within thirty (30) days following the event giving rise to the transfer.

(3) Form 430. Whenever an application must be filed under paragraphs (a)(1) or (2) of this section, the assignee or transferee shall file FCC Form 430 ("Common Carrier Radio License Qualification Report") unless an accurate report is on file with the Commission.

(4) Notification of completion. The Commission shall be notified by letter of the date of completion of the assignment or transfer of control.

(5) If the transfer of control of a license is approved, the new licensee is held to the original construction requirement of § 24.203.

(c) In acting upon applications for transfer of control or assignment, the Commission will not consider whether the public interest, convenience and necessity might be served by the transfer or assignment of the authorization to a person other than the proposed transferee or assignee.

(d) Restrictions on Assignments and Transfers of Licenses for Frequency Blocks C and F. No assignment or transfer of control of a license for frequency Block C or frequency Block F will be granted unless—

(1) The application for assignment or transfer of control is filed after five years from the date of the initial license grant;

(2) The application for assignment or transfer of control is filed after three years from the date of the initial license grant and the proposed assignee or transferee meets the eligibility criteria set forth in § 24.709;

(3) The application is for partial assignment of a partitioned service area to a rural telephone company pursuant to § 24.714 and the assignee meets the eligibility criteria set forth in § 24.709; or

(4) The application is for an involuntary assignment or transfer of control to a bankruptcy trustee appointed under involuntary bankruptcy, an independent receiver appointed by a court of competent jurisdiction in a foreclosure action or, in the event of death or disability, to a person or entity legally qualified to succeed the decrease or disabled person under the laws of the place having jurisdiction over the estate involved; provided that, the applicant requests a waiver pursuant to this paragraph.

(e) If the assignment or transfer of control of a license is approved, the assignee or transferee is subject to the original construction requirement of § 24.203.

§§ 24.840–24.842 [Reserved]

§ 24.843 Extension of time to complete construction.

(a) If construction is not completed within the time period set forth in § 24.203, the authorization will automatically expire. Before the period for construction expires an application for an extension of time to complete construction (FCC Form 489) may be filed. *See* paragraph (b) of this section. Within 30 days after the authorization expires an application for reinstatement may be filed on FCC Form 489.

(b) Extension of Time to Complete Construction. An application for extension of time to complete construction may be made on FCC Form 489. Extension of time requests must be filed prior to the expiration of the construction period. Extensions will be

granted only if the licensee shows that the failure to complete construction is due to causes beyond its control.

(c) An application for modification of an authorization (under construction) does not extend the initial construction period. If additional time to construct is required, an FCC Form 489 must be submitted.

(d) [Reserved]

§ 24.844 Termination of authorization.

(a) Termination of authorization.

(1) All authorizations shall terminate on the date specified on the authorization or on the date specified by these rules, unless a timely application for renewal has been filed.

(2) If no application for renewal has been made before the authorization's expiration date, a late application for renewal will be considered only if it is filed within thirty (30) days of the expiration date and shows that the failure to file a timely application was due to causes beyond the applicant's control. During this 30-day period, a reinstatement application must be filed on FCC Form 489. Service to subscribers need not be suspended while a late-filed renewal application is pending, but such service shall be without prejudice to Commission action on the renewal application and any related sanctions. *See also* § 24.16 (Criteria for Comparative Renewal Proceedings).

(b) Termination of special temporary authorization. A special temporary authorization shall automatically terminate upon failure to comply with the conditions in the authorization.

(c) [Reserved]

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July 22, 1994

Part V

Department of Transportation

Federal Aviation Administration

14 CFR Parts 23 and 91

Airworthiness Standards; Systems and Equipment Proposals Based on European Joint Aviation Requirements Proposals; Proposed Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 23 and 91

[Docket No. 27806; Notice No. 94–21]

RIN: 2120–AE59

Airworthiness Standards; Systems and Equipment Proposals Based on European Joint Aviation Requirements Proposals

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes changes to the systems and equipment airworthiness standards for normal, utility, acrobatic, and commuter category airplanes. These proposals arise from the joint effort of the Federal Aviation Administration (FAA) and the European Joint Aviation Authorities (JAA) to harmonize the Federal Aviation Regulations (FAR) and the Joint Aviation Requirements (JAR) for airplanes that will be certificated in these categories. The proposed changes would provide nearly uniform systems and equipment airworthiness standards for airplanes certificated in the United States under 14 CFR part 23 (part 23) and in the JAA countries under Joint Aviation Requirements 23 (JAR 23), thereby simplifying airworthiness approval for import and export purposes.

DATES: Comments must be submitted on or before November 21, 1994.

ADDRESSES: Comments on this document should be mailed in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC–200), Docket No. 27806, 800 Independence Avenue SW., Washington, DC 20591.

Comments delivered must be marked Docket No. 27806. Comments may be inspected in Room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal holidays.

In addition, the FAA is maintaining an information docket of comments in the Office of the Assistant Chief Counsel, ACE–7, Federal Aviation Administration, Central Region, 601 East 12th Street, Kansas City, Missouri 64106. Comments in the duplicate information docket may be inspected in the Office of the Assistant Chief Counsel weekdays, except Federal holidays, between the hours of 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Earsa Tankesley, ACE–112, Small Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 601 East 12th Street, Kansas City, Missouri 64106; telephone (816) 426–5688.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, or economic impact that might result from adopting the proposals in this notice are also invited. Substantive comments should be accompanied by cost estimates. Comments should identify the regulatory docket or notice number and should be submitted in triplicate to the Rules Docket address specified above. All comments received on or before the specified closing date for comments will be considered by the Administrator before taking action on this proposed rulemaking. The proposals contained in this notice may be changed in light of comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a preaddressed, stamped postcard on which the following statement is made: "Comments to Docket No. 27806." The postcard will be date stamped and returned to the commenter.

Availability of NPRM

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA–200, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267–3484. Communications must identify the notice number of this NPRM.

Persons interested in being placed on the mailing list for future NPRM's should request, from the above office, a copy of Advisory Circular No. 11–2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

Background

At the June 1990 meeting of the JAA Council (consisting of JAA members from European countries) and the FAA, the FAA Administrator committed the FAA to support the harmonization of the FAR with the JAR being developed for use by the European authorities who are members of the JAA. In response to this commitment, the FAA Small Airplane Directorate established an FAA Harmonization Task Force to work with the JAR 23 Study Group to harmonize part 23 and the proposed JAR 23. The General Aviation Manufacturers Association (GAMA) also established a JAR 23/part 23 Committee to provide technical assistance in this effort.

Following a review of the first draft of proposed JAR 23, members of the FAA Harmonization Task Force and the GAMA Committee met in Brussels, Belgium for the October 1990 meeting of the JAR 23 Study Group. Representatives from the Association Europeene des Constructeures de Material Aerospatial (AECMA), an organization of European airframe manufacturers, also attended. The main agenda item for this meeting was the establishment of procedures to accomplish harmonization of the airworthiness standards for normal, utility, and acrobatic category airplanes. The JAA had decided that its initial rulemaking effort should be limited to these three categories and that commuter category airworthiness standards should be addressed separately.

After that meeting, technical representatives from each of the four organizations (GAMA, AECMA, FAA and JAA) met to resolve differences between the proposed JAR and part 23. This portion of the harmonization effort involved a number of separate meetings of specialists in the flight, airframe, powerplant, and systems disciplines. These meetings showed that harmonization would require revisions to both part 23 and the proposed JAR 23.

Near the end of the effort to harmonize the normal, utility, and acrobatic category airplane airworthiness standards, the JAA requested and received recommendations from its member countries on proposed airworthiness standards for commuter category airplanes. The JAA and the FAA held specialist and study group meetings to discuss these recommendations, which resulted in proposals to revise portions of the part 23 commuter category airworthiness standards.

Unlike the European rules, where commuter category airworthiness standards are separate, for U.S. rulemaking, it is advantageous to adopt normal, utility, acrobatic, and commuter category airworthiness standards

simultaneously, since commuter category airworthiness standards are already contained in part 23. Accordingly, this NPRM proposes to revise the systems and equipment airworthiness standards for all part 23 airplanes.

During the part 23 harmonization effort, the FAA established an Aviation Rulemaking Advisory Committee (ARAC) (56 FR 2190, January 22, 1991), which held its first meeting on May 23, 1991. The ARAC on General Aviation and Business Airplane (GABA) Issues was established at that meeting to provide advice and recommendations to the Director, Aircraft Certification Service, FAA, regarding the airworthiness standards in part 23 as well as related provisions of parts 91 and 135 of the regulations.

The FAA announced, on June 2–5, 1992, at the JAA/FAA Harmonization Conference in Toronto, Ontario, Canada, that it would consolidate within the ARAC structure an ongoing objective to "harmonize" the JAR and the FAR. Coinciding with that announcement, the FAA assigned the ARAC on GABA Issues those rulemaking projects related to JAR/part 23 harmonization that were in final coordination between the JAA and the FAA. The harmonization process included the intention to present the results of JAA/FAA coordination to the public as NPRM's. Subsequently, the ARAC on GABA Issues established an ARAC–JAR 23 Study Group.

The JAR 23 Study Group made recommendations to the ARAC on GABA Issues concerning the FAA disposition of the rulemaking issues coordinated between the JAA and the FAA. The draft NPRMs previously prepared by the FAA harmonization team were made available to the harmonization working group to assist them in their effort.

A notice of the formation of the JAR 23 Harmonization Working Group was published on November 30, 1992 (57 FR 56626). The group held its first meeting on February 2, 1993. These efforts resulted in the proposals for systems and equipment airworthiness standards contained in this notice. The ARAC on GABA Issues agreed with these proposals.

The FAA received unsolicited comments from the JAA dated January 20, 1994, concerning issues that were left unresolved with the JAR 23 Study Group. The JAR/FAR 23 Harmonization Working Group did not address some of the unresolved issues because the JAA had not yet reached positions on those issues. Unresolved issues will be dealt with at future FAR/JAR Harmonization meetings. With respect to other issues unresolved by the JAR 23 Study Group, the JAR/FAR 23 Harmonization Working Group recommendations did not reflect harmonization, but reflected the technical discussion of the merits of each issue that had been thoroughly debated at the JAR/FAR 23 Harmonization meetings. (The Working Group Chairperson had been present at the Harmonization meetings.) The JAA comments have been placed in the docket for this proposal, and will be considered along with those received during the comment period.

Following completion of these harmonization efforts, the FAA determined that the proposed revisions to part 23 were too numerous for a single NPRM. The FAA decided to simplify the issues by issuing four NPRM's. These NPRM's address the airworthiness standards in the specific areas of systems and equipment, powerplant, flight, and airframe. These NPRM's propose changes in all seven subparts of part 23. Since there is some overlap, interested persons are advised to review all four NPRM's to identify all proposed changes to a particular section.

Discussion of Proposals

Section 23.677 Trim Systems

Proposed revised § 23.677(a) would clarify the need to mark the lateral and directional trim indicators with the neutral trim position. Since trim indicators on most airplanes are currently marked with the neutral position of the trimming device, this proposal would standardize the cockpit markings for all airplanes.

Revised paragraph (a) would also add a requirement for the pitch trim indicator to be marked with the proper pitch trim range for the takeoff of the airplane. Some takeoff accidents, including some involving fatalities, have occurred because the pitch trim was not set to the proper range needed for the airplane takeoff. Because of this accident experience, most of the current airplane manufacturers mark the pitch trim indicator with the pitch trim range for takeoff. Therefore, the proposed marking requirement would not have a significant impact on future airplane designs and would ensure that the markings needed for a safe takeoff are provided for the pilots' use.

Section 23.691 Artificial Stall Barrier System

This proposed new section would provide standards for stall barrier systems if a stall barrier is necessary to show compliance with § 23.201(c).

The requirements of § 23.201(c) provide criteria for the in-flight demonstration of wings level stall. The requirements also specify the means of identifying when a stall has occurred. Amendment No. 23–45 (58 FR 42136, August 6, 1993) revised § 23.201(c) by adding the activation of an artificial stall barrier as an acceptable means of identifying when a stall has occurred.

As the technology of airplane designs improved and engines with increased power became available, airplanes were developed that did not meet the older wings level stall requirement of § 23.201. Consequently, these airplanes were equipped with an artificial stall barrier that moved the airplane elevator controls and caused a nose down pitching motion similar to the pitching motion of airplanes that meet the wings level stall requirement of § 23.201. The manufacturer selected the airspeed where this pitching motion occurred and flight testing established compliance with the other flight regulations at airspeeds above the speed selected for the push. These stall barrier systems are commonly called "stick pushers." Such systems have been accepted for compliance with § 23.201 under the equivalent safety provisions of § 21.21(b)(1), since they provide a pitch motion that is equivalent to that experienced during stalls of airplanes that meet the stall requirements of § 23.201. Appropriate compliance with other applicable requirements of part 23 has been established by other design characteristics of the stall barrier system.

The provisions of the proposed new section are based on system design characteristics necessary to ensure the safe operation of previously approved stall barrier systems. The proposed section also requires such systems to include provisions to prevent unwanted activation of the stall barrier systems. This is necessary to ensure that such systems do not cause downward pitching motions at higher airspeeds when such pitching could be unsafe.

The proposed sections would basically codify those provisions that have been found necessary for approving stick pusher systems under the equivalent safety requirements of § 21.21(b)(1). Therefore, in effect, no new requirements would be added by this proposed amendment.

The proposed new section would be applicable only to airplanes with flight characteristics that need an artificial stall barrier system to ensure safe operation of that airplane. Including provision for the installation of an optional stick pusher system would relieve the manufacturer of the financial

burden that would be needed to redesign the airplane so that it would meet the wings level stall requirements.

Section 23.697 Wing Flap Controls

Proposed new § 23.697(c) would provide safety standards for the wing flap control lever designs installed in airplanes that use wing flap settings other than fully retracted when showing compliance with § 23.145. This revision is needed to ensure that the flap settings, which establish the safe operation of the airplane, can be positively selected.

Section 23.701 Flap Interconnection

Section 23.701 (a)(1) and (a)(2) would be revised to clarify the requirements for flap systems installed on part 23 airplanes. Following the revision of § 23.701, as adopted by Amendment No. 23–42 (56 FR 353, January 3, 1991), the FAA discovered that the new requirements could be interpreted in a way that was not intended and that this interpretation could result in approval of airplanes with unsafe flight characteristics in the event of flap failure. To clarify the intent of the requirements, the FAA issued on March 14, 1991, a policy letter to all aircraft certification offices that provided guidance for the correct application of the requirements.

Since then, the FAA has reexamined the requirements and determined that § 23.701 (a)(1) and (a)(2) need to be revised to ensure that a failure of the flap system would not create an asymmetric flap configuration that could result in an unsafe flight condition. Therefore, § 23.701 (a)(1) and (a)(2) would be revised to clarify that one of the following would apply:

(1) The moveable flap surfaces must be synchronized by a mechanical interconnection or by an approved equivalent means, that is independent of the flap drive system.

(2) The wing flap system must be designed so that any failures of the flap system that would result in an unsafe flight characteristic of the airplane, such as flap asymmetry, is extremely improbable.

These revisions would ensure that a failure of the flap drive systems will not result in a flap asymmetry configuration.

Section 23.703 Takeoff Warning System

This proposed new section would require a takeoff warning system on some commuter category airplanes. The requirement would be applicable if the flight evaluation showed that an unsafe takeoff condition would result if lift devices or longitudinal trim devices are set to any position outside the approved takeoff range. If the evaluation shows that no unsafe condition would result at any setting of these devices, a takeoff warning system would not be required. For those airplanes on which a warning system must be installed, the proposal would provide requirements for the installation of the system.

Section 23.723 Shock Absorption Tests

Paragraph (b) of this section would be revised by changing the word "reserved" in the phrase "reserved energy absorption capacity" to "reserve."

Section 23.729 Landing Gear Extension and Retraction System

This proposal would revise § 23.729(e) to clarify that a landing gear indicator is required for each gear. The last sentence of current § 23.729(e) would also be removed. This sentence, which states that the switches may be located where they are operated by the actual landing gear locking latch or device, is advisory material and should not be included in the requirements. If future guidance is needed to identify acceptable switch locations, Advisory Circular 23.701–1 will be revised to include that information.

This proposal would also add a new § 23.729(g) requiring that if the landing gear bay is used as the location for equipment other than landing gear, the equipment must be designed and installed to minimize damage. On larger airplanes, such as the commuter category, a primary cause of damage to such equipment would be tire burst. In addition, service history has shown that rocks, water, and slush enter the landing gear bay and cause damage. The equipment on any size airplane should be protected from damage by such external sources.

Section 23.735 Brakes

Section 23.735(a) would be revised to state plainly that wheel brakes must be provided. A proposed new § 23.735(c) would require the brake system to be designed so that the brake manufacturer's specified brake pressures are not exceeded during the landing distance determination required by § 23.75.

Proposed new § 23.735(e), applicable to commuter category airplanes, would require establishing the minimum rejected takeoff brake kinetic energy capacity rating of each main wheel brake assembly. Section 23.45 provides that the determination of the accelerate-stop distance for commuter category airplanes be made in accordance with the applicant's procedures for operation in service. The proposed requirement is needed to ensure that the brakes will perform safely under accelerate-stop conditions.

Section 23.745 Nose/Tail Wheel Steering

Proposed new § 23.745 would provide requirements that apply if nose/tail-wheel steering is installed. Advanced airplane design technology, along with the need to safely control the airplane when it is being operated on increasingly congested airports, has resulted in several small airplanes being equipped with systems for ground steering only.

The proposed new section would not require the installation of a system for ground steering, but it would add requirements to define how such a system should function if one is installed. It would also require the steering system to be designed so that it will not interfere with any installed landing gear retraction and extension system.

Section 23.775 Windshields and Windows

Section 23.775(a) would be revised to state that internal glass panels of windshields and windows must be constructed of a nonsplintering material, such as nonsplintering glass. Currently § 23.775(a) requires nonsplintering safety glass only. A nonsplintering material must be used to protect pilots from injury. While nonsplintering glass is an acceptable standard, other nonsplintering materials would be allowed under the proposal.

Section 23.775(c) would be revised to clarify that it applies to pressurized airplanes if certification for operation up to and including 25,000 feet is requested. This would not be a substantive change. It has always applied to such airplanes but is not as directly stated in the current rule as it would be in the proposed rule. Current § 23.775(e), which is being redesignated as § 23.775(d) by this notice without change, provides requirements for airplanes that are certified for operations above 25,000 feet. This revision of paragraph (c) and redesignation of paragraph (e) will clarify the requirements that are applicable to airplanes approved for operations at different altitudes. Redesignated paragraph (e) is revised to remove the masculine gender by rephrasing "when he is seated" to read "when the pilot is seated."

Section 23.775(h), introductory text, and paragraph (h)(1) would be added to require windshield panes of commuter

category airplanes that are directly in front of the pilots to withstand the impact of a two pound bird. This requirement is based on a Joint Aviation Authority recommendation to add windshield bird strike protection for commuter category airplanes. Following receipt of the recommendations, the FAA obtained and reviewed the International Civil Aviation Organization (ICAO) data on bird strikes that occurred on airplanes of 19,000 pounds or less from 1981 through 1989. These data show that approximately 550 strikes occurred and that one out of seven strikes hit the windshield. The bird strike reports, which include information on the type of bird, the airplane altitude and/or airspeed, show the following:

1. More than one-half of the strikes (51.8 percent) occurred between the ground and 100 feet above the ground.
2. Another one-fourth of the strikes (26.7 percent) occurred between 101 and 1000 feet.
3. The airplane airspeed at the time of most of the strikes (85 percent) was 150 knots or less.
4. Where bird types were reported, 27.6 percent involved small birds and 58.6 involved medium size birds.
5. Incidents where the airplane was damaged showed that 16.9 percent resulted from small bird strikes and 64 percent resulted from strikes involving medium size birds.

Evaluation of these data indicate that most bird strikes occur at takeoff and landing altitudes and airspeeds, and that medium or small birds, many weighing two pounds or less, are most often struck. Although only a few fatalities and injuries have resulted from these reported bird strikes, the data indicates a high probability of bird strikes during landings and takeoffs and the potential hazards of such strikes.

This proposed new paragraph would require that the windshield panes directly in front of the pilots of commuter category airplanes, and the supportive structure for these panes, must withstand the impact of a two-pound bird at an airplane's maximum approach flap speed.

Proposed § 23.775(h)(2) would require the panels of the windshield to be arranged so that, if one is damaged, other panels will remain that will provide visibility for continuous safe flight and landing of the airplane.

By requiring full protection against the strike of a two-pound bird at approach speeds, some protection will also be provided if the airplane strikes a larger bird or strikes a bird at a higher speed.

Section 23.783 Doors

Current § 23.783(b) requires that passenger doors not be located with respect to any propeller disk so as to endanger persons using the door. Proposed paragraph (b) would add that passenger doors must be located in relation to any other potential hazard that could endanger persons using the door. The propeller disk remains the prominent hazard but other items, such as hot deicer surfaces or sharp objects on the airplane structure, are also hazards.

Proposed new paragraph (g) would require lavatory doors, if installed, that would not trap occupants inside a closed and locked lavatory compartment.

Section 23.785 Seats, Berths, Litters, Safety Belts, and Shoulder Harnesses

Seat requirements of part 23 would be clarified by moving the seat provisions in current § 23.1307(a), which require a seat or berth for each occupant, to the introductory text of § 23.785. The requirement of § 23.1413, for a metal to metal latching device for seat belts and shoulder harnesses would also be referenced in § 23.785(b). These proposed changes would combine related seat requirements in one section.

Section 23.787 Baggage and Cargo Compartments

Section 23.787 would be revised by extending the present requirements for cargo compartments to baggage compartments. As proposed, future baggage compartments on all airplane categories would be required to: Be placarded for their maximum weight capacity; have a means to prevent the baggage from shifting; and have a means to protect controls, wiring, lines, and equipment or accessories that are located in the compartment and whose damage or failure would affect safe operation of the airplane. These standards have been applicable to cargo compartment designs for some time and should be applied to baggage compartments since the same safety factors are involved. Because manufacturers recognize the need for these standards, many of these provisions have been included in the current design of baggage compartments and, therefore, the proposed requirements are not expected to create a significant burden. With this revision the commuter category requirements of § 23.787(g) would be redundant and that requirement is being removed.

Proposed revisions to this section would also move the substance of paragraphs (d) and (f) to a proposed new § 23.855, which will address cargo and baggage compartment fire protection.

Proposed new paragraph (c) of this section would require flight crew emergency exits on all cargo configured airplanes to meet the requirements of § 23.807. This requirement would provide increased assurance that flight crews of all cargo airplanes will have ready access to an emergency exit.

Section 23.791 Passenger Information Signs

This proposed new section would require at least one illuminated sign notifying all passengers when seat belts should be fastened. This proposed requirement applies to airplanes where flightcrew members cannot observe occupant seats or where the flightcrew member compartment is separated from the passenger compartment. When illuminated, the signs must be legible to all persons seated in the passenger compartment. Each sign must be installed so that a flightcrew member can turn it on and off from his or her station.

Section 23.807 Emergency Exits

Proposed new § 23.807(a)(4) would provide the same protection from any propeller disk and other potential hazard for a person who uses emergency exits as that provided by proposed § 23.783(b) for a person who uses a passenger door. (See discussion for proposed § 23.783 in this notice.)

The proposed revision of § 23.807(b) would provide that the inside handles of emergency exits that open outward must be protected against inadvertent operation. Currently this protection is required by applying the general safety provisions of this subchapter. The addition of the specific requirement in § 23.807(b) would clarify the need for this protection by providing a requirement that addresses outward opening emergency exits.

The proposed revision to § 23.807(b)(5) and new § 23.807(b)(6) would apply to acrobatic and utility category airplanes that are approved for maneuvers, such a spinning. The proposed rule would require that emergency exits for these category airplanes allow the occupants to abandon the airplane at certain speeds related to such maneuvers. These emergency exits need to function under different environmental conditions than the emergency exits on normal category airplanes. The revision of the text in paragraph (b)(5) would provide the same terminology that is used in added new paragraph (b)(6).

Section 23.841 Pressurized Cabins

The proposed revision to § 23.841(a) would extend the cabin pressure requirements of current paragraph (a), which now apply to airplanes certificated for operation above 31,000 feet, to airplanes certificated for over 25,000 feet. Current 14 CFR part 25, JAR 25, and proposed JAR 23 include the same requirement as this proposal. This proposed requirement is intended to protect the airplane occupants from harm if a malfunction occurs at altitudes where symptoms of hypoxia occur, usually above 25,000 feet. Due to the increasing use of turbine powered engines, more part 23 airplanes will be approved for operations above 25,000 feet, thus exposing an increasing number or occupants, who may have some breathing difficulties, to these altitudes. The occupants should have the same protection provided by the airworthiness standards of part 25 and JAR 25.

Section 23.853 Passengers and Crew Compartment Interiors

This proposal would revise the section heading from "Compartment Interiors" to "Passenger and crew compartment interiors" for consistency with the introductory text of the section and to clarify the content of the section.

Section 23.855 Cargo and Baggage Compartment Fire Protection

This proposed new section would require the following:

Proposed paragraph (a) would require all sources of heat within each cargo and baggage compartment that are capable of igniting the compartment contents to be shielded and insulated to prevent such ignition.

Proposed paragraph (b) would require cargo and baggage compartments to be constructed of materials that meet the appropriate provisions of § 23.853(d)(3). Currently these requirements apply to commuter category airplanes and to the materials used in the compartments of these airplanes. The proposed new requirement would expand this applicability to the cargo and baggage compartments of all part 23 airplanes. In effect, the proposed new requirement would require materials that are self-extinguishing rather than flame resistant as currently required under § 23.787(d).

Proposed new paragraph (c) would add new fire protection requirements for cargo and baggage compartments for commuter category airplanes. The proposed rule would require on of the following alternatives: (1) Either the compartment must be located where pilots seated at their duty station would easily discover the fire or the compartment must be equipped with a smoke or fire detector system to warn the pilot's station. The compartment must also provide access to the compartment with a fire extinguisher. (2) The compartment may be inaccessible, but must be equipped with a fire detector system that warns the pilot station, and the compartment must have ceiling and sidewall floor panels constructed of materials that have been subjected to and meet the vertical self-extinguishing tests of appendix F of this part. (3) The compartment must be constructed and sealed to contain any fire.

The proposed new section is necessary for several reasons. The proposals for additional requirements for commuter category airplane cargo and baggage compartments were developed after an examination of reported incidents of inflight fires and their causes. Although most of these incidents of inflight fires occurred on transport category airplanes, the reported sources of the fires showed that the fires originate from sources, such as matches in the pockets of clothing, that are as likely to be found on part 23 airplanes as on transport category airplanes. The same potential for inflight fires exists on commuter category airplanes and adequate protection should be provided.

The potential for inflight fires also showed a need to examine the flame resistant requirements of current § 23.787(d) and to consider requirements that would improve the fire protection on other categories of airplanes. As a part of this consideration, fire protection was discussed with certain airframe manufacturing representatives. Information provided in these discussions showed that materials that meet self-extinguishing flame requirements are available at about the same cost as materials that meet flame resistance requirements. Based on a review of the fire incidents and the information on availability of improved materials, the proposal for § 23.855(b), which would replace current § 23.787(d), would require self-extinguishing materials to be used in the cargo and baggage compartments of all part 23 airplanes.

Section 23.867 Electrical Bonding and Protection Against Lightning and Static Electricity

This proposed revision would change the heading that precedes the section from "Lightning Evaluation" to "Electrical Bonding and Lightning Protection." It would also revise the section heading from "Lightning protection of structures" to "Electrical bonding and protection against lightning and static electricity." The proposed revisions more accurately clarify the content of the section.

Section 23.1303 Flight and Navigation Instruments

The lead in for § 23.1303(a) would be revised to clarify that the instruments required by this section are the minimum ones required. Also, § 23.1303(d) would add a requirement for those airplanes whose performance must be based on weight, altitude, and temperature to be equipped with a free air temperature indicator. A new sentence added to § 23.1303(e)(2) would state that nuisance overspeed warnings should not occur at lower speeds where pilots might ignore the warning. A new paragraph (f) would propose requirements for attitude instruments that include a means for flightcrew members to adjust the reference symbol. Finally, it would add a new paragraph (g) to define certain specific instruments required for a commuter category airplane.

The proposal for § 23.1303(e)(2) was developed following a Joint Aviation Authority recommendation that the warning should not occur below the maximum operating limit speed (V_{MO}/M_{MO})/ To determine the effect that this recommended V_{MO}/M_{MO} limit would have on the design of overspeed warning devices, the FAA contacted several equipment manufacturers. These manufacturers responded that it would be possible to establish a lower limit at V_{MO}/M_{MO}, but that the design changes needed to ensure that the warning occurred between the presently required upper limit and the recommended lower limit would be very expensive.

The FAA notes that no known safety problem justifies that cost of these design changes. However, the FAA is also aware that if warnings of any type occur when the pilots know that no particular problem exists, such warnings may become a nuisance. If warnings become a nuisance, a pilot may disregard a warning when the airplane is approaching a flight speed where an unsafe flight condition may occur. Regulatory action is therefore needed to ensure that the warning will occur within appropriate speed limits. Proposed § 23.1303(e)(2) would require manufacturers to establish a lower speed limit so that nuisance overspeed warnings will not occur. The manufacturer would be required to show that this limit is appropriate for the airplane design but would not be required to set this lower limit at one

specific speed, such as V_{MO}/M_{MO}, which would be costly to achieve.

A new § 23.1303(f) is proposed because attitude instruments are available that provide a means accessible to the flightcrew members, for adjusting the reference symbol through ranges that could result in unsafe pitch angles in small airplanes. These instruments were developed for airplanes that use high pitch angles for approved climb or descent gradients. By permitting these airplanes to use instruments that can be adjusted for these higher pitch angles, pilots are able to maintain the design gradients using an instrument that provides a normal indication at that pitch.

If such attitude instruments are installed in small airplanes, pilots could adjust the reference symbol to ranges that could result in unsafe pitch angles. The recommendation showed that some instruments can be adjusted to result in pitch angles that are nearly the same as the pitch angle that many small airplanes achieve before stalling. To preclude potential cases of unwanted pitch adjustments of attitude instruments installed in small airplanes, § 23.1303(f) proposes to limit the adjustment range to that limit that is needed for parallax correction.

Proposed new § 23.1303(g) would identify specific instruments, and limits of those instruments, required for commuter category airplanes. When the JAA initiated their consideration of commuter category airplanes, one of the proposals they received recommended adding the instrument requirements of § 25.1303 to part 23 for commuter category airplanes. In considering this recommendation, a review of the requirements showed that many instruments required under § 25.1303 are presently required by the operating rules. In addition, § 23.1583(h) requires a list of the equipment that must be installed for the kinds of operation for which the airplane is approved. Based on the review, it was determined that many of the requirements in § 25.1303 would be redundant, and the recommendation was not accepted.

In considering a portion of the recommendation to require a third attitude instrument, the FAA noted that § 91.531(a)(3) requires a commuter category airplane of ten or more passengers to be operated with a second-in-command and that § 23.1321 requires flight and navigation instruments for each required pilot. Accordingly, two attitude instruments are required for a ten passenger, IFR approved commuter category airplane. Service experience has shown that failures of an attitude instrument system can occur where there will be a time period in which the indicator appears to be working but is providing incorrect information. During such a failure of one instrument in an airplane equipped with only two instruments, the pilots may have difficulty determining which instrument to follow, and hazardous flight attitudes may result. A third attitude instrument would allow the crew to retain reliable attitude information at all times, and thus the proposed rule would require a third attitude instrument for commuter airplanes operated by two pilots.

Section 23.1307 Miscellaneous Equipment

This proposal would remove the requirement of § 23.1307(a) which is being added to § 23.785. The discussion of § 23.785 covers this change.

Also, the provisions of § 23.1307(b)(1), (b)(2), and (b)(3), are being removed from § 23.1307. These requirements have been previously added to §§ 23.1361, 23.1351, and 23.1357, respectively; therefore, they are redundant and may be removed. The designator for paragraph (c) has also been removed from the remaining text of this section.

Section 23.1309 Equipment, Systems, and Installations

Proposed new § 23.1309(a)(4) would correct an inadvertent omission that occurred when the FAA issued Amendment No. 23–41 (55 FR 43306, October 26, 1990). The omitted requirement was adopted by Amendment No. 23–34 as a portion of § 23.1309(d) and read: "In addition, for commuter category airplanes, system and installations must be designed to safeguard against hazards to the airplane in the event of their malfunction or failure." (52 FR 1833, January 15, 1987.) To correct this oversight, and to continue the single fault provision of this paragraph, § 23.1309(a)(4) is being proposed.

Section 23.1311 Electronic Display Instrument Systems

This proposal would revise § 23.1311 to remove redundant requirements and to clarify which secondary instruments are required and the visibility requirements for these instruments. When § 23.1311 was adopted by Amendment No. 23–41 (55 FR 43306, October 26, 1990), several nonsubstantive changes were made to the proposals in Notice No. 89–6 (54 FR 9345, March 6, 1989) to remove the redundancy included in the notice. In the process certain provisions, such as the one that permitted the installation of mechanical secondary instruments, were inadvertently omitted from the final rule. Since the final rule, discussions with airplane manufacturer representatives have shown that the requirements defining the instrument panel location where secondary instruments may be installed are also not clear. Accordingly, the FAA is proposing to revise this section to correct and clarify these portions.

Current § 23.1311(a), which requires electronic display indicator installations that are independent to each pilot station, would be deleted because it is redundant with § 23.1321(a). Section 23.1321(a) requires that each flight, navigation, and powerplant instrument for use by any required pilot shall be located so that any pilot seated at the controls can monitor the instruments with minimum head and eye movement. As stated in the preamble of Notice No. 89–6 (54 FR 9345, March 6, 1989) regarding the proposed revision to § 23.1321, "This revision also clarifies the rule relative to instrumentation that must be provided for each pilot required for type certification or by the applicable operating rules. If a pilot is required by any applicable requirement, then that pilot must be provided all instrumentation required for any operations for which the airplane is approved." Accordingly, the requirements of current § 23.1311(a) would be removed.

In place of current paragraph (a), proposed § 23.1311(a) would be a revision of current paragraph (c) that would clarify what instruments are required and the visibility of those instruments. Proposed new § 23.1311(a)(1) would require electronic display instrument installations to meet the arrangement and visibility requirements of § 23.1321(a).

Proposed § 23.1311(a) (2), (3), and (4) would be redesignated with no changes from current § 23.1311(c) (1), (2), and (3).

Proposed § 23.1311(a)(5) would continue the requirement of § 23.1303(c) for a magnetic direction indicator and, in addition, would require either an independent secondary mechanical altimeter, airspeed indicator, and attitude indicator or individual electronic display indicators for the altimeter, airspeed, and attitude that are independent from the airplane's primary electrical power. These secondary instruments may be installed in panel positions other than the primary location as long as the selected location allows the pilot to properly monitor the instruments and control the airplane.

The substance of proposed paragraph (a)(5) is both a substantive change and a combination of the current § 23.1311(b), which states that certain electronic display indicators must be independent of the airplane's electrical power system, and current § 23.1311(c)(4) which requires independent secondary attitude and rate-of-turn instruments and specifies the location of those instruments. Proposed § 23.1311(a)(5) would delete the requirement for a rate-of-turn instrument (in current § 23.1311(c)(4)) and specify that the required secondary instruments are those that provide altitude, airspeed, magnetic direction, and attitude. The information that would be provided by a secondary rate-of-turn instrument would not appreciably add to the safe operations of the airplane if the pilot has the information provided by the secondary attitude instrument.

Current § 23.1311(b) requires that electronic display indicators required by § 23.1303 (a), (b), and (c) be independent of the airplane's electrical power system. The original intent of the requirement for secondary instruments, as stated in Notice No. 89–6, was to require the installation of either mechanical instruments or independent electronic display indicators powered by a source independent of the airplane's electrical system. However, the current rule does not clearly state this and does not address the installation of mechanical instruments. Proposed § 23.1311(a)(5), would allow either secondary electronic display indicators or mechanical instruments to provide a crew with information essential for continued flight and landing in the event of failure in the airplane's electrical power system.

Current § 23.1311(c) (5) and (6) would be redesignated as § 23.1311(a) (6) and (7) without change.

Proposed new § 23.1311 (b) and (c) would continue the requirements of current § 23.1311 (d) and (e) without change.

Section 23.1321 Arrangement and Visibility

The proposed revision to § 23.1321(d) would remove the wording that limits the instrument location requirement to airplanes certificated for flight under instrument flight rules or airplanes weighing more than 6,000 pounds. Instruments are for the pilot and should be located near that pilot's vertical plane of vision without regard to what flight rules are approved for the airplane's operation or the maximum weight of the airplane.

Section 23.1323 Airspeed Indicating System

The proposed new § 23.1323(c) would add a requirement that each airspeed indicating system design and installation should provide positive drainage of moisture from the system. This proposal is consistent with the provisions required for a static system by § 23.1325(b).

If moisture enters, or accumulates in, an airspeed indicating system, that moisture could cause erroneous airspeed indications or the complete loss of airspeed information. The resulting loss of accurate airspeed information would be hazardous to the operation of the airplane; therefore, to assure the safety of the airplane, the FAA would need to apply the more general airworthiness requirements of §§ 23.1301 and 23.1309 to such a system and require provisions for drainage of moisture. Accordingly, this proposed revision of the airspeed indicating systems requirements only clarifies the criteria that must be applied to airspeed indicating systems.

To better organize the requirements that are applicable to the airspeed systems on all airplane categories and those that would be additional requirements for the airspeed systems of commuter category airplanes, the FAA proposes to redesignate existing paragraphs (c) and (e), respectively, as paragraphs (e) and (d). By this redesignation, paragraphs (a), (b), (c), and (d) would apply to all airplanes, and paragraphs (e) and (f) would include additional requirements applicable to commuter category airplanes.

The proposal for redesignated paragraph (e) would also remove the words "in flight and" from the first sentence of that paragraph. This would remove the requirement for the airspeed indicating system to be calibrated in flight. The requirement for an in flight calibration is provided in paragraph (b). Proposed redesignated paragraph (e) would apply to the calibration needed to determine the system error during the accelerate-takeoff ground run.

As identified in the background section of this notice, the FAA is issuing additional notices that address proposed changes to the requirements for powerplant, flight, and airframe. Proposed revisions to subpart G in the flight NPRM include placing all of the requirements for what must appear in the Airplane Flight Manual (AFM) in that subpart. With the proposals to revise the AFM requirements, the flight NPRM also proposes that the requirement in existing § 23.1323(d) (to show the relationship between IAS and CAS in the AFM) be added to § 23.1587 as proposed new paragraph (d)(10). Because the AFM requirement would be added to § 23.1587, it no longer needs to appear in § 23.1323. Accordingly, this notice proposes to remove the text of existing § 23.1323(d).

Proposed new § 23.1323(f) would provide that, on those commuter airplanes where duplicate airspeed indicators are required, the airspeed pitot tubes must be located far enough apart so that both tubes will not be damaged by a single bird strike.

Section 23.1325 Static Pressure System

Current § 23.1325(b)(3) establishes certain static pressure system requirements for airplanes that encounter icy conditions. Current § 23.1325(g) exempts from the requirements of (b)(3) airplanes that are prohibited from flight in instrument meteorological conditions in accordance with § 23.1559(b). After the adoption of § 23.1325(g), it came to the FAA's attention that there are conditions other than instrument meteorological conditions where icing may be encountered and, therefore, that this paragraph should also exempt from the provisions of § 23.1325(b)(3) airplanes that are prohibited from flight in icing conditions. Accordingly, § 23.1325(g) would be revised to read, "For airplanes prohibited from flight in instrument meteorological or icing conditions."

As indicated in the background section of this notice, the FAA will issue additional notices that will address proposed changes to the requirements for powerplant, flight, and airframe. Revisions to Subpart G in the flight notice will propose to place all of the requirements that specify what must appear in the AFM in that subpart. With the proposals to revise the AFM requirements, the flight notice will also propose that § 23.1325(f) be removed and the results of the altimeter system calibration would be required by § 23.1587.

Section 23.1326 Pitot Heat Indication System

Proposed new § 23.1326 would require the installation of a pitot tube heat indicating system on those airplanes required to be equipped with a heated pitot tube. Heated pitot tubes ensure that moisture will not freeze in the tube and block or partially block the airspeed indicating system. Such blockage would result in the pilots receiving incorrect flight data with possibly disastrous results.

Due to advancements in technology, many part 23 airplane installations now utilize equipment whose data sources are critical to the accurate and dependable operation of that equipment. The heated pitot tube is one such data source. The pitot heat indicating system will advise the pilots of any inoperative heating element in the pitot tube and that subsequent inaccuracies may result.

Part 23 airplanes certificated for flight under instrument flight rules or for flight in icing conditions are required by current § 23.1323(e) to have a heated pitot system or an equivalent means of preventing an airspeed indicating system malfunction due to ice accumulation. This proposal would require such airplanes equipped with a heated pitot tube to be equipped with a pitot tube heat indicating system. This requirement will provide greater assurance that the pilots will not be dangerously misled by faulty flight instrument indications caused by pitot tube icing.

When pitot tube heat indicating system requirements were added to part 25, the FAA noted the occurrence of at least one accident and several incidents in which an airspeed indicating error occurred that might have been avoided if a pitot tube heat indicating system had been installed. Part 23 airplanes operate at lower airspeeds and over shorter distances that do part 25 airplanes; therefore, their exposure to moisture and temperature conditions where icing may occur is higher than it is for transport category airplanes. Because of this environmental exposure, the potential for an inoperative heated pitot tube becoming a hazard to part 23 airplanes is greater.

This proposed requirement also responds to National Transportation Safety Board (NTSB) recommendation A–92–85, which recommends requiring a modification to certain part 23 airplanes to provide for a pitot heat operating light similar to the light required by § 25.1326 for transport category airplanes. NTSB issued the safety recommendation, among others, as a result of a special investigation and analysis of a series of fatal accidents that occurred from May 31, 1989, through March 17, 1991.

Section 23.1329 Automatic Pilot System

New § 23.1329(b), adopted by Amendment No. 23–24 (58 FR 18958, April 9, 1993), does not state clearly that stick controlled airplanes must be equipped with the same autopilot quick release controls that are required for airplanes with control wheels. This proposed revision of § 23.1329(b) would clarify that a quick release control must be installed on each control stick of an airplane that can be operated from either pilot seat.

Section 23.1337 Powerplant Instruments Installation

This proposal would revise the heading of this section to reflect the powerplant instrument installation requirements that it contains. The difference between this section and § 23.1305 is clarified by this change.

Section 23.1337(b) would be revised by removing the wording that authorizes installation of only those fuel indicators marked in gallons and pounds. In countries that use the metric system, other acceptable units of measure for marking fuel indicators are used. This proposed revision would allow the use of any appropriate measurement unit.

Section 23.1337(b) would also be revised by adding the word "usable" to the first sentence of this section. This revision is consistent with the requirements of § 23.1337(b)(1), which requires the fuel quantity indicator to be calibrated to read "zero" when the fuel in the tank is equal to the unusable fuel determined under § 23.959.

Proposed new § 23.1337(b)(4) would require a "means to indicate" the amount of usable fuel in each tank when the airplane is on the ground. This requirement would ensure that a reliable means is provided for the pilot to determine before takeoff that the amount of fuel that is in the airplane is adequate for the intended flight. The ability to make this preflight determination will help reduce the number of accidents that have resulted from fuel starvation. This proposal, which is patterned after § 23.1337 (d) and (d)(1), would not require a separate fuel indicating system. The means to determine the amount of fuel while on the ground may be provided by a calibrated dipstick, separate markings on the inflight fuel indicator, or any other acceptable means selected by the manufacturer. Accordingly, this proposal would contribute to the safe operation of the airplane and would not appreciably add to the cost of the airplane design.

Section 23.1351 General

The proposal would revise current § 23.1351 by removing portions of paragraphs (b)(2) and (b)(3) and by removing all of paragraph (b)(4). The removed requirements are applicable to alternators that depend upon the battery for initial excitation or for stabilization. This revision responds to a Joint Aviation Authority recommendation to remove the provisions that allow a battery failure to result in the loss of the alternator. Information in this recommendation showed that self-excited alternators are now available for installation on newly certificated airplanes. The FAA has verified that self-excited alternators are now available; therefore, there is no longer a need for the regulations to address alternators that depend upon a battery for initial excitation and stabilization.

Revised § 23.1351(c)(3) would require an automatic means for reverse current protection. Reverse current protection is accomplished by means that automatically detect changes in the current. The proposed revised wording would more accurately define this function and the equipment that would accomplish the protection.

Finally, § 23.1351(f) would be revised by adding a requirement that would require the ground power receptacle to be located where its use will not result in a hazard to the airplane or to people on the ground using the receptacle.

Section 23.1353 Storage Battery Design and Installation

Proposed new § 23.1353(h) would require that, in the event of a complete loss of the primary electrical power generating system, airplane battery capacity must be sufficient to supply at least 30 minutes of electrical power to those loads essential to the continued safe flight and landing of the airplane.

This proposal is not limited to airplanes that are approved for any particular type of operation. Although the battery capacity needed for an airplane approved for day visual flight rules (VFR) operations would be much less than the capacity for an airplane approved for day/night instrument flight rules (IFR) operations, the same level of safety should be provided for all airplanes. While this proposal would add an additional requirement to part 23 for normal, utility, acrobatic, and commuter category airplanes, in practice this requirement to provide a battery capacity sufficient to supply at least 30 minutes of electrical power is not new to many airplane manufacturers. Certain other countries in which part 23 airplanes have been certificated have requirements for such a 30-minute battery capacity. Manufacturers' experience with these requirements has shown that the only design impact that results from complying with these requirements is the need to install a battery with greater capacity than might otherwise be installed. Experience has also shown that a load shedding procedure may be necessary for certain airplanes. No other

airplane design changes would be needed.

Despite the above referenced experience record, this requirement would be new to some manufacturers and they may have questions on how it would be applied. For that reason, this notice discusses compliance considerations that have emerged from experience based on substantively equivalent requirements.

This compliance experience has shown that the rating of the battery selected for the airplane should be sufficient to cover the loss of capacity that would occur with battery age and the reduced capacity that results from a realistic state of charge, which may be less than a full charge. Using a design battery capacity that is only 75 percent of the battery nameplate rating would be an acceptable way of accounting for these losses.

In addition to determining the battery rating that would be needed, the manufacturer would also need to determine the functions that would be necessary for 30 minutes of safe flight and the landing of the airplane. Again, experience has identified several functions. For a day VFR approved airplane, no functions may require battery power; however, it may be necessary to supply power for certain communication capacities or, if the airplane has electrically powered retractable landing gear, power may be required to lower the gear. Providing a secondary means for lowering the gear would be an acceptable alternative to providing electrical power or battery power for this function.

For other types of operating approvals, providing power for the following functions and equipment should be considered:

1. Any required flight and navigation instruments. Air driven instruments that would function over the required period can also be accepted for this function.
2. Cockpit and instrument lighting.
3. For IFR and icing approvals, power for the heated pitot tube.
4. For radio communication, usually one VHF communication system with power for three to five minutes of transmission would be acceptable.
5. Functions needed for safe night flight and night landing of the airplane.
6. Electronic engine ignition systems.
7. Any functions that cannot be readily shed following the loss of generator power.
8. Engine inlet heat or deicing protection required for normal operation of the airplane.

Although power for the listed functions may provide for the safe operation and landing of most airplanes, individual airplane designs may require the consideration of additional functions.

In applying these rules it may be assumed that airframe and engine icing protection equipment would not be operating at the time of the generator system failure. Power for icing protection would not be required if the icing protection equipment is not required for the normal operation of the airplane.

This proposal would require additional battery capacity and would not alter or supersede any other requirements in this part for separate or dedicated emergency power supplies. When requirements such as those in current § 23.1331(a) or in proposed § 23.1311(a)(5) are applicable to the airplane design, these power supplies are required to provide a needed level of safety for that function; therefore, that power source must be supplied.

Section 23.1359 Electrical System Fire Protection

Proposed new § 23.1359 would require smoke and fire protection for electrical system installations. The provisions of § 23.1359(a) of this proposal state that electrical systems must meet the applicable requirements of §§ 23.863 and 23.1182.

Proposed § 23.1359(b) would require that the electrical systems components installed in designated fire zones and used during emergency procedures be fire resistant. This provision is needed to clarify the requirements for electrical system components that may be installed in the designated fire zones identified in § 23.1181.

Finally, § 23.1359(c) provides burn criteria for electrical wire and cables. A proposed revision to appendix F of part 23 that would add appropriate wire testing criteria is included in this notice.

This proposed burn criteria for wire is necessary because of the increased use of electrical systems in the design of part 23 airplanes and the resulting increase in the amount of electrical wire being installed. This increased use results in the need to ensure that wire insulating material does not become the source of an in-flight fire and/or that it does not propagate a fire from another source. The electrical wire burn requirements in this proposal, along with the testing identified in revised appendix F, would ensure that installed electrical wire has insulating material that reduces the possibility of hazardous in-flight fires.

Section 23.1361 Master Switch Arrangement

To harmonize with the JAR this proposal would revise § 23.1361(c) by making an editorial change to remove the last two words of the paragraph that read "in flight."

Section 23.1365 Electrical Cables and Equipment

This proposal would revise § 23.1365(b) and would add three new paragraphs.

Section 23.1365(b) would be revised in relation to proposed new § 23.1359(c), which would require self-extinguishing insulated electrical wires and cables. Current § 23.1365(b) requires that cable and associated equipment that would overheat in the event of circuit overload or fault must be flame resistant and may not emit dangerous quantities of toxic fumes. The proposed revisions to § 23.1365(b) would remove the reference to electrical cables from the flame resistance requirement since the cables would be required to have self-extinguishing insulation under § 23.1359(c). The requirement for electrical cables and the associated equipment that would overheat to not emit dangerous quantities of toxic fumes has been retained.

The text of § 23.1365(b) that includes the words "at least flame resistant " would also be revised by removing the words "at least". The removed words implied that there were burn requirements, other than the ones in this section, that must be met.

The three paragraphs that would be added by this proposal would require: (1) The identification of electrical cables, terminals, and connectors; (2) the protection of electrical cables from damage by external sources; and (3) installation criteria for cables that cannot be protected by a circuit protection device.

As identified in the discussion of proposed § 23.1359, there is an increasing use of electrical systems in part 23 airplanes. The resulting increase in the number of electrical wires used in part 23 airplanes makes proper installation difficult. The proposal for electrical cable identification would provide better assurance that the cables will be correctly installed initially and correctly reinstalled when airplane maintenance or modifications are accomplished. The other proposed new requirements would provide installation criteria that will ensure the protection of cables under circumstances that can be expected from the increased use of electrical systems.

Section 23.1383 Taxi and Landing Lights

The landing light requirements of § 23.1383 would be revised by adding taxi lights to this section. When the landing light requirements were included in the normal, utility, acrobatic, and commuter category requirements, the same lights were used for both night landing and taxiing of the airplane. Due to availability of different types of lights, separate lights are now frequently installed for landing and for taxiing. Including the word "taxi" in the heading would clarify that the requirements cover both kinds of lights.

Current § 23.1383(a), which requires the lights to be acceptable, would be deleted because it is unnecessary to state this. All lights that are found to meet the requirements of this section and other directly related airworthiness requirements are acceptable. The paragraphs would be redesignated accordingly.

Current § 23.1383(b)(3) requires that a landing light must be installed to provide enough light for a night landing. Proposed § 23.1383(c) would revise "night landing" to "night operation" since the requirements would also cover taxiing and parking. Proposed new paragraph (d) would require the lights to be installed so that they do not cause a fire hazard. This clarifies the need for such an evaluation.

Section 23.1401 Anticollision Light System

This proposal would revise § 23.1401 to require the installation of an anticollision light system on all part 23 airplanes. Current § 23.1401 requires an anticollision light system only if certification for night operations is requested. When the requirements for anticollision lights were first added to the Civil Air Regulations (CAR), part 3, in 1957, those requirements were needed to increase the conspicuity of the airplanes during night operations because of the increasing air traffic density and the newer airplanes' capability to attain higher speeds. At the time, the operating conditions did not show a need for such lights for daylight operations.

The number of airplanes that have been added to the fleet and the increasing speeds resulting from improved technology, especially the increasing use of turbine engines, now necessitates the conspicuity provided by anticollision lights for day operations as well. The FAA Accident and Incident data for the period 1984 through 1990 shows that 269 aircraft were involved in midair collisions in which 108 fatalities occurred. A review of this data shows that 234 of these aircraft were involved in accidents or incidents that occurred during VFR conditions and that 224 were involved in accidents or incidents during day operations. The other 10 were involved in operations at night or dusk. The reports on 35 aircraft did not identify the type of condition that existed.

Of the types of aircraft identified by the reports in this data, 60 were balloons, gliders, or other aircraft that were not certificated under part 23 and whose level of safety would not be changed by this proposal. When the data is revised by removing those reports, it shows that 209 small, part 23 airplanes operated under VFR conditions were involved in midair accidents or incidents and that at least 167 of these airplanes were being operated in day VFR conditions. Because the occupant capacity of all the aircraft in the data ranged from one to ten, it can be assumed that the fatality rate of .401 per aircraft (108 fatalities/269 aircraft) would be nearly the same for the 167 small airplanes operating in day VFR conditions as it was for the 269 aircraft. Based on this assumption, there would have been approximately 67 fatalities that occurred in these 167 small airplane accidents and incidents.

The reports do not show if the airplanes involved were equipped with or were using anticollision lights. They do show that a need exists to reduce the number of accidents. Requiring the installation of anticollision lights on all newly certificated airplanes and, as proposed by revised § 91.209 in this notice, requiring operation of anticollision lights during day operations would increase the airplane's conspicuity and contribute to a reduction in the number of accidents. Even if such action is only 25 percent effective, a review of the 6-year service history indicates that approximately 17 fatalities could be avoided in a similar 6-year period. Many manufacturers have realized the additional safety that can be provided by the increased airplane conspicuity of using anticollision lights and have elected to install an anticollision light system on all of the airplanes they produce. Therefore, most airplanes are now being manufactured with an installed anticollision light system, and the FAA expects that this proposal would not result in an economic burden on the aviation community.

Section 23.1431 Electronic Equipment

This proposal would add three new paragraphs to § 23.1431. Proposed new paragraph (c) would require that airplanes required to be operated by more than one flightcrew member must be evaluated to determine if the flightcrew members can converse without difficulty when they are seated at their duty stations. Accident investigations have shown that, in some instances, conversation between the flightcrew members was severely hindered by the noise level in the cockpit and that the inability to communicate contributed to the accident. If the required evaluation shows that the noise level does not impair conversation, no further action is required. However, if the evaluation shows that conversation will be difficult, an intercommunication system would be required.

Proposed new paragraph (d) would require that if installed communication equipment includes any means of switching from receive to transmit, the equipment must use "off-on" transmitter switching that will ensure that the transmitter is turned off when it is not being used. Transmitting equipment that remains in the transmit mode when not being used blocks the frequency being used and can create an unsafe condition by preventing other needed communication.

Proposed new paragraph (e) would require that if provisions for the use of communications headsets are provided, it must be demonstrated that flightcrew members can hear aural warnings when a headset is being used. Aural warnings are required to warn the pilot of a condition that necessitates the pilot's taking action; therefore, it is necessary to ensure that such warnings would be effective even when headsets are being used.

During the development of the proposed new requirements in paragraphs (c) and (e), the FAA considered proposing a requirement that compliance demonstrations should be conducted under actual cockpit noise conditions when the airplane is being operated. The FAA, however, ultimately determined that such a requirement could result in demonstrations conducted under more severe noise conditions than needed. Accordingly, no such requirement is being proposed. If the FAA determines in the future that noise conditions for demonstrations need to be specified, the FAA will define these conditions in advisory material.

Section 23.1435 Hydraulic Systems

Since the close of the comment period for the Small Airplane Airworthiness Review Program Notice No. 3 (55 FR 40598, October 3, 1990), now adopted by Amendment No. 23–43 (58 FR 18958,

April 9, 1993), the FAA has been involved in discussions of the installation of hydraulic accumulators that are permitted by § 23.1435(c). These discussions have shown that applicants are likely to find § 23.1435(c) difficult to understand because of the way it is worded. This notice would further revise § 23.1435(c) to clarify under what circumstances a hydraulic accumulator and reservoir may be installed on the engine side of any firewall.

Section 23.1447 Equipment Standards for Oxygen Dispensing Units

Proposed new § 23.1447(a)(4) would require that if radio equipment is installed in an airplane, flightcrew oxygen dispensing units must be designed to allow the use of communication equipment when oxygen is being used. If radio equipment is installed, that equipment cannot perform its intended function if the flightcrew is not provided the proper means for its utilization under all operating conditions, including operations when oxygen is being used.

This proposal would not require all flightcrew oxygen dispensing units to be equipped with communication equipment. Since an airplane may be operated in uncontrolled airspace, where two-way radio communication is not required and, at the same time, be at altitudes where oxygen is required for the flightcrew members, some airplanes have a crew oxygen system but no radio equipment. It would be inappropriate to require the flightcrew dispensing units of those airplanes to be equipped with communication equipment.

The proposed revisions to § 23.1447(d) would require the flightcrew oxygen dispensing units to be automatically presented before the cabin pressure altitude exceeds 15,000 feet or be the quick-donning type if the airplane is certificated for operation above 25,000 feet. The requirement in paragraph (e) for the passenger dispensing units to be automatically presented if the airplane is approved for operation above 30,000 feet has not been revised. The revision to paragraph (d) would provide the flightcrew and the airplane passengers the same level of safety as provided by other airworthiness standards. This proposed revision is also consistent with the proposed revision of § 23.841 in this notice.

Section 23.1451 Fire Protection for Oxygen Equipment

This proposed new section would specify that fire protection is needed for oxygen equipment installations. Section 23.1451 (a) and (b) would, respectively, prohibit the installation of oxygen equipment in designated fire zones and require that oxygen system components be protected from the heat from designated fire zones.

Proposed § 23.1451(c) would require oxygen equipment and lines to be separated from other equipment or to be protected in a manner that would prevent escaping oxygen from striking grease, fluids, or vapors. The impingement of pure oxygen on certain materials will lower their combustion point to a value where ignition will occur in ambient conditions thereby creating a potential source for an airplane fire. In one instance, an airplane was destroyed by fire that resulted when escaping oxygen impinged on lubricating material during maintenance of the airplane. The proposed new section would ensure that oxygen systems are protected to prevent fire hazards that can result from escaping oxygen.

Section 23.1453 Protection of Oxygen Equipment From Rupture

This proposed new section would clarify the rupture protection needed for oxygen system installation. Rupture protection for oxygen systems is currently required by the application of the structures load requirements of part 23. The addition of § 23.1453(a) would clarify the application of these load requirements and would identify the need to consider maximum temperatures and pressures that may be present. Section 23.1453(b) would identify the protection to be provided for high pressure oxygen sources and the high pressure lines that connect such sources to the oxygen system shutoff valves.

Section 23.1461 Equipment Containing High Energy Rotors

This proposal would revise paragraph (a) of this section to clarify that the requirements apply to high energy rotors included in an auxiliary power unit (APU). Following the addition of this section to part 23, the FAA issued a policy message that showed § 23.1461 was adopted to cover equipment such as APU's and constant speed drives that may be installed on small airplanes. The proposed revision of paragraph (a) will clarify the applicability of this section as identified in that policy material.

Appendix F

This proposal would revise appendix F to provide the procedures needed to test electrical wire to ensure that the wire meets the burn requirements of § 23.1359. It would also add procedures for meeting the 45 degree and 60 degree angle burn test requirement proposed for §§ 23.855(c)(2) and 23.1359(c), respectively. Paragraph (b) would be revised to clarify the specimen configuration that must be used in the testing procedures that are proposed to be added by this notice.

Section 91.205 Powered Civil Aircraft With Standard Category U.S. Airworthiness Certificates: Instrument and Equipment Requirements

Proposed new § 91.205(b)(11) would require that airplanes certificated under § 23.1401 of this notice be equipped with an anticollision light system for day VFR operations. Day VFR operations are discussed under § 23.1401 of this notice.

Section 91.209 Aircraft Lights

Proposed new § 91.209(b) would require that airplanes equipped with an anticollision light system be operated with the anticollision light system lighted during all types of operations, except when the pilot determines that, because of operating conditions, it would be in the interest of safety to turn the lights off.

Regulatory Evaluation, Regulatory Flexibility Determination, and Trade Impact Assessment

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effects of regulatory changes on international trade. In conducting these analyses, the FAA has determined that this rule: (1) Would generate benefits that would justify its costs and is not a "significant regulatory action" as defined in the Executive Order; (2) is not "significant" as defined in DOT's Policies and Procedures; (3) would not have a significant impact on a substantial number of small entities; and (4) would not constitute a barrier to international trade. These analyses, available in the docket, are summarized below.

Regulatory Evaluation Summary

This section summarizes the costs and benefits of each provision of the proposed rule. Many of the provisions would impose either no cost or a negligible cost. Such provisions are

typically administrative, editorial, clarifying, relieving, or conforming in nature. In addition, the FAA holds that certain provisions have a potential safety benefit that can be achieved with no incremental cost, due primarily to the fact that this rule would apply to future certificated airplanes and retrofitting would not be required. All provisions of the proposed rule, including those with no or negligible costs, are summarized below. Only those provisions with non-negligible costs are further evaluated in the section that follows. The reader is directed to the full regulatory evaluation for additional information.

Section	Incremental cost	Benefit
Section 23.677 Trim systems	Negligible	Safety.
Section 23.691 Artificial stall barrier system	None	Administrative.
Section 23.697 Wing flap controls	$480 per certification and $100 per airplane for affected airplanes.	Nominal safety and relief.
Section 23.701 Flap interconnection	None	Clarification.
Section 23.703 Takeoff warning system	$240 per certification for evaluation. Where necessary, $5,120 per certification, $1,000 per airplane and $100 per year.	Nominal safety and relief.
Section 23.723 Shock absorption tests	None	Editorial.
Section 23.729 Landing gear extension and retraction system.	¶(e). None	Clarification.
	¶(g). Negligible, general practice	Minor; general practice.
Section 23.735 Brakes	¶(a). None	Editorial clarification.
	¶(c). None	Administrative.
	¶(e). $240 per certification	Minor safety.
Section 23.745 Nose/Tail wheel steering	None	Minor. Avoids special conditions.
Section 23.775 Windshields and windows	¶(a). None	Relieving.
	¶(c). None	Clarification.
	¶(h). Up to $350,000 per certification	Safety.
Section 23.783 Doors	¶(b). None	Minor safety.
	¶(f). $25 per airplane	Safety.
Section 23.785 Seats, births, litters, safety belts and shoulder harnesses.	None	Editorial organization.
Section 23.787 Baggage and cargo compartments	¶(a). $1 per airplane	Minor safety.
	¶(b). $60 per certification and up to $100 per airplane	Safety.
	¶(c). None	Clarification.
Section 23.791 Passenger information signs	$60 per certification, up to $200 per airplane, and a negligible effect on operating costs.	Safety.
Section 23.807 Emergency exits	¶(a)(4). Expected negligible	Minor safety.
	¶(b) and (b)(5). None	Clarification and editorial.
	¶(b)(6). Where chosen, $10,000 per certification and $500 per airplane.	Safety.
Section 23.841 Pressurized cabins	$1,000 per certification and $2,000 per airplane	Safety.
Section 23.853 Passenger and crew compartment interiors.	None	Editorial.
Section 23.855 Cargo and baggage compartment fire protection.	¶(a). Less than $40 per airplane	Minor safety.
	¶(b). Less than $200 per airplane	Safety.
	¶(c). Potentially as high as $1,800 per certification, $4,550 per airplane, and $100 per year.	Safety.
Section 23.867 Electrical bonding and protection against lightning and static electricity.	None	Editorial.
Section 23.1303 Flight and navigation instruments	Introduction. None	Clarification.
	¶(d). $500 per certification and $350 per airplane	Safety.
	¶(e)(2). None.	Minor safety.
	¶(f). None	Minor safety.
	¶(g)(1). Up to $2,000 per airplane	Safety.
	¶(g)(2). None	Minor safety.
	¶(g)(3). Up to $3,600 per certification and $7,000 per airplane.	Safety.
Section 23.1307 Miscellaneous equipment	None	Editorial and conforming.
Section 23.1309 Equipment, systems, and installations.	None	Minor safety.
Section 23.1311 Electronic display instrument systems.	None	Clarifying, editorial, and relieving.
Section 23.1321 Arrangement and visibility	None	Minor safety.
Section 23.1323 Airspeed indicating system	None	Minor safety.
Section 23.1325 Static pressure system	None	Relieving.
Section 23.1326 Pitot heat indication system	$2,800 per certification, $1,600 per airplane	Safety.
Section 23.1329 Automatic pilot system	None	Clarifying.
Section 23.1337 Powerplant instruments installation	Heading and ¶(b). None	Clarifying, relieving.
	¶(b)(4). Negligible	Safety.
Section 23.1351 General	¶(b). None	Administrative.
	¶(c)(3). None	Clarifying.
	¶(f). None	Minor safety.

Section	Incremental cost	Benefit
Section 23.1353 Storage battery design and installation.	Where necessary, up to $30 per five years capital, up to $10 per year operating, and $600 per certification.	Safety.
Section 23.1359 Electrical system fire protection	¶(a). None	Clarifying emphasis.
	¶(b). Negligible	Clarifying.
	¶(c). $240 per certification	Safety.
Section 23.1361 Master switch arrangement	None	Editorial.
Section 23.1365 Electrical cables and equipment	¶(b). None	Conforming editorial.
	¶(d). $4,400 per certification and $100 per airplane	Safety.
	¶(e). None	Minor safety.
	¶(f). Negligible	Minor safety.
Section 23.1383 Taxi and landing lights	None	Editorial update.
Section 23.1401 Anticollision light system	Where necessary, $2,400 per certification and $1,600 per airplane.	Safety.
Section 23.1431 Electronic equipment	¶(c). Where necessary, up to $1,200 per certification and $1,600 per airplane.	Safety.
	¶(d). Negligible. Included above	Minor safety.
	¶(e). None or negligible	Safety.
Section 23.1435 Hydraulic systems	None	Clarifying.
Section 23.1447 Equipment standards for oxygen dispensing units.	¶(a)(4). Up to $2,000 per airplane	Safety.
	¶'s (d) and (e). None	Minor safety.
Section 23.1451 Fire protection for oxygen equipment	None	Safety.
Section 23.1453 Protection of oxygen equipment from rupture.	$960 per certification	Safety.
Section 23.1461 Equipment containing high energy rotors.	None	Clarifying.
Appendix F to part 23—Test procedure	None. Considered above	Minor safety.
Section 91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.	None	Safety, considered above.
Section 91.209 Aircraft lights	$25 per year per airplane	Safety, considered above.

Evaluation of Provisions With Non-Negligible Projected Costs

This section describes and evaluates those provisions of the proposed rule that are expected to impose costs that are not negligible.

Section 23.697 Wing Flap Controls

Proposed new § 23.697(c) would provide safety standards for the wing flap control lever designs installed in airplanes that use wing flap settings other than fully retracted when showing compliance with § 23.145. The FAA estimates that an aerospace engineer could design the flap control lever to meet the proposed requirement in 8 hours at a burdened rate of $60 per hour, totalling $480 per certification. The control lever itself would impose an incremental cost, including installation, of approximately $100 per airplane.

The nominal benefits of this provision would derive from the increased safety afforded the pilot in positively selecting the proper flap setting to maintain longitudinal control. In fact, if a flap position other than fully retracted were needed to maintain longitudinal control: (1) That position would be necessary to prevent an unsafe condition, (2) the airplane would not be certificated under that design, and (3) the airplane would have to be redesigned so that intermediate flap positions would not be needed for control. Proposed paragraph (c) would allow the identification of an intermediate flap position and the positive means of selecting that position. This alternative would rectify the unsafe condition without requiring the manufacturer to redesign the airplane.

Section 23.703 Takeoff Warning System

This proposed new section would require a takeoff warning system on some commuter category airplanes. The requirement would be applicable if the flight evaluation shows that an unsafe takeoff condition would result if lift devices or longitudinal trim devices are set to any position outside the approved takeoff range. If the evaluation shows that no unsafe condition would result at any setting of these devices, a takeoff warning system would not be required. For those airplanes on which a warning system must be installed, the proposed rule would provide requirements for the installation of the system.

The FAA estimates that an evaluation to determine whether a takeoff warning system would be needed would cost $240 (4 hours of engineering at a burdened rate of $60 per hour). Where needed, the integration design of a warning system would cost $2,400 (40 hours at $60 per hour). In addition, an incremental 4 hours of flight testing at a cost of $2,720 ($500 per hour for two test pilots and $180 per hour for fuel) would be needed to demonstrate the system's performance. The FAA estimates that the system, including acquisition, wiring, micro switches, and labor, would add approximately $1,000 to the cost of each airplane required to have one. Maintenance of such a system would cost approximately $100 per year. The FAA solicits comments from interested parties concerning the expected certifications that would require a takeoff warning system and the concomitant costs to acquire, install, and maintain them.

The nominal benefits of this proposal would derive from the increased safety provided by the takeoff warning system that would activate whenever lift or longitudinal trim devices are not set within their approved takeoff ranges. In fact, if an evaluation showed that positions of the lift or longitudinal trim devices could create an unsafe condition on takeoff, the manufacturer would be required, under existing regulations, to redesign the devices so that the unsafe positions could not be obtained. The proposed section would provide relief by allowing the applicant to install a warning system rather than redesigning the trim device(s).

Section 23.735 Brakes

Proposed new § 23.735(e), applicable to commuter category airplanes, would

require establishing the minimum rejected takeoff brake kinetic energy capacity rating of each main wheel brake assembly. Section 23.45 provides that the determination of the accelerate-stop distance for commuter category airplanes be made in accordance with the applicant's procedures for operation in service. This proposed requirement is needed to ensure that the brakes will perform safely under accelerate-stop conditions.

Under the proposed rule, manufacturers of commuter airplanes could determine the kinetic energy absorption requirements either through a conservative rational analysis of the sequence of events expected during a rejected takeoff or by using a formula presented in proposed new § 23.735(e)(2). It is projected that the necessary determination would cost $240 based on four hours of engineering at a burdened rate of $60 per hour. The potential benefits of the proposal would derive from the added safety that would be provided by establishing beforehand the minimum necessary kinetic energy capacity rating of each main wheel brake assembly under rejected-takeoff conditions.

Section 23.775 Windshields and Windows

Introductory text and paragraph (h)(1) would be added to require that commuter category windshield panes that are directly in front of the pilots be able to withstand the impact of a two pound bird at maximum approach flap speed. By requiring full protection against the strike of a two-pound bird at approach speed, additional protection would also be provided if the airplane strikes a larger bird or strikes a bird at a higher speed.

Proposed § 23.775(h)(2) would further require the panels of the windshield to be so arranged that, if one is damaged, other panels would remain to provide visibility for continuous safe flight and landing.

The potential costs of proposed § 23.775(h) would vary depending on the circumstances of the affected manufacturer. Industry sources estimate that the total nonrecurring cost per model would range from $250,000 to $350,000, consisting of: (1) Up to $200,000 for a bird strike test article ("bird gun") if the manufacturer does not have one; and (2) up to $150,000 of time and materials costs for the actual testing.

A manufacturer that has a bird strike test article would not incur additional capital test costs. Most manufacturers would incur up to $150,000 in time and materials costs for the actual testing, but even these costs would be mitigated by the existing need of most manufacturers to perform such tests for export sales to JAA member countries.

Industry sources estimate that there would be no identifiable increment in design or tooling costs since the windshield would be an integral part of the initial design. Similarly, little or no recurring costs per airplane (incremental materials, installation, or weight) are projected since it is reasonable to assume that the pressure load, as compared to bird strike resistance, would be the controlling factor in the windshield design strength.

The benefit of the proposed rule is the incremental protection against bird strikes that would be afforded to commuter category airplanes. The FAA has reviewed International Civil Aviation Organization (ICAO) data on bird strikes that occurred on member-country airplanes of 19,000 pounds or less than 1981 through 1989. These data show that approximately 550 strikes occurred and that one out of seven strikes hit the windshield. The data show that:

1. Almost 52 percent of the strikes occurred at altitudes of less than 100 feet, and 26.7 percent occurred between 101 and 1000 feet.
2. Eighty-five percent of the strikes occurred at airspeeds of 150 knots or less.
3. Where bird types were reported, 27.6 percent of the strikes involved small birds and 58.6 involved medium size birds (2 pounds or less).
4. Incidents where the airplane was damaged showed that 16.9 percent resulted from small bird strikes and 64 percent resulted from medium size bird strikes.

These data show that most bird strikes occur at takeoff and landing altitudes and airspeeds, and that birds weighing two pounds or less are struck most often. The standards of the proposed provision are based on these statistics. Few fatalities and injuries resulted from the bird strikes reported in the ICAO data. Similarly, a review of NTSB accident records between 1982 and 1992 revealed no U.S. accidents resulting from bird strikes to the windshields of commuter category airplanes. As a result, the FAA is not able to illustrate the justification of this provision on the basis of historical accidents. Instead, the standards are being proposed based on the expert recommendations of the ARAC. It is also noted that this standard will be applied in JAA member countries and that U.S. manufacturers wishing to export to those countries would be required to meet the standard in any event.

Given that this provision cannot be quantitatively supported on the basis of past accidents alone, the FAA expressly requests public input and comments on its expected costs and potential benefits.

Section 23.783 Doors

Proposed new paragraph (f) would require that the locks on lavatory doors, if installed, be designed so that they would not trap occupants. Lavatory door locks used in transport category airplanes (see § 25.783) meet the requirements of this proposed rule. The FAA estimates that the incremental cost of this provision would be no more than $25 per lock. The proposal would reduce the likelihood that occupants would be trapped in a locked lavatory, both in emergency and non-emergency situations.

Section 23.787 Baggage and Cargo Compartments

The proposed rule would extend to normal, utility, and acrobatic airplanes the existing commuter requirement to prevent baggage from hazardous shifting. The FAA estimates that an aerospace engineer would be required for 1 hour, at a burdened cost of $60 per hour, to analyze the subject loads that would need to be constrained. Tiedowns would cost approximately $50 per baggage compartment, or no more than $100 per airplane. These additional costs would apply only to normal, utility, or acrobatic airplanes since commuter category airplanes are already subject to the requirement under the existing rule.

The potential benefits of the proposed provision include the reduced likelihood: (1) That baggage compartments would be overloaded, (2) that stowed baggage would shift dangerously, and (3) that essential co-located equipment or wiring would be damaged.

Section 23.791 Passenger Information Signs

This proposed new section would require at least one illuminated sign notifying all passengers when seat belts should be fastened. The requirement would apply only to airplanes where flightcrew members could not observe occupant seats or where the flightcrew compartment is separated from the passenger compartment. The signs would have to be legible to all seated passengers and be operable from a crewmember station.

The FAA estimates that an aerospace engineer could design the required sign(s) in 1 hour, at a burdened rate of $60 per hour. The sign would cost approximately $200 per airplane,

including parts and installation costs. Maintenance costs for bulb replacement would be negligible. The weight penalty associated with the light system would also be minor (no more than 2 pounds).

The safety benefits of the proposed change would derive from the increased likelihood that passengers would know when their seat belts should be fastened.

Section 23.807 Emergency Exits

Proposed new § 23.807(a)(4) would provide the same hazard protection for a person using an emergency exit as that provided by proposed § 23.783(b) for a person who uses a passenger door. Emergency exits could not be located with respect to a propeller disk or any other hazard in a manner that would endanger persons using that exit.

The FAA holds that no incremental cost would be incurred to meet the standards of the proposed provision for newly certificated airplanes. However, this notice specifically requests that interested parties submit comments on the potential costs and methods of compliance that manufacturers would choose to comply with this proposed requirement.

The proposed revision to § 23.807(b)(5) would editorially revise the current egress requirements for acrobatic airplanes. New § 23.807(b)(6) would establish similar egress standards for utility category airplanes that are certificated for spinning. Industry sources estimate that an aerobatic, quick-release door would cost an incremental $10,000 in engineering design per affected airplane model and an additional $500 per production airplane. Little or no additional weight is expected. These costs would apply only in cases where the manufacturer determines that the marketplace return of a combination type certificate would outweigh the additional costs of design and production.

Section 23.841 Pressurized Cabins

The proposed revision to § 23.841(a) would extend the cabin pressure requirements of current paragraph (a), which now apply to airplanes certificated for operation above 31,000 feet, to airplanes certificated for operation above 25,000 feet. Current part 25, JAR 25, and proposed JAR 23 include the same requirement proposed here. This proposed requirement is intended to protect airplane occupants from harm if a malfunction occurs at altitudes where symptoms of hypoxia occur, usually above 25,000 feet.

For airplanes that will be certificated for maximum altitude operation between 25,000 feet and 31,000 feet, the proposal would necessitate two additional pressure altitude regulators and associated plumbing. Industry sources estimate that the proposed requirement would cost an incremental $1,000 in engineering design per affected airplane model and $2,000 per production airplane. Any additional weight would be negligible.

The benefits of the proposal would derive from the incremental protection against hypoxia afforded to occupants of airplanes certificated for maximum altitude between 25,000 and 31,000 feet. Due to the increasing use of turbine engines, more part 23 airplanes are likely to be approved for operation above 25,000 feet. In the absence of this proposed rule, an increasing number of occupants would be exposed to the potential for harm in the event of a failure or malfunction of the pressure system on these airplanes.

Section 23.855 Cargo and Baggage Compartment Fire Protection

Proposed paragraph (a) would require all sources of heat within each cargo and baggage compartment that are capable of igniting the compartment contents to be shielded and insulated to prevent such ignition. Existing § 23.787(f) requires that cargo compartment lamps be installed so as to prevent contact between the lamp bulb and cargo. The proposal would clarify and extend this provision to include all sources of heat for baggage as well as cargo compartments.

Lights and (rarely) heaters for pets are typically the only sources of heat located in a baggage or cargo compartment. A wire cage, costing no more than $20, around the heat source would meet these requirements. The FAA estimates that the cost of compliance per airplane would be no more than $40 in those rare cases where such protection would not have been provided anyway. The benefit of the proposed provision is a reduction in the possibility of fire caused by the ignition of compartment contents by lights or heaters.

Proposed paragraph (b) would require cargo and baggage compartments to be constructed of materials that meet the appropriate provisions of § 23.853(d)(3). Currently these requirements apply to commuter category airplanes and to the materials used in the compartments of these airplanes. The proposed new requirement would expand this applicability to the cargo and baggage compartments of all part 23 airplanes. In effect, the proposed new requirement would require materials that are self-extinguishing rather than flame resistant as currently required under § 23.787(d).

Information provided by manufacturers shows that materials that meet self-extinguishing flame requirements are available at a slightly higher cost than materials that meet flame resistant requirements. The FAA conservatively estimates that the incremental costs of complying with proposed § 23.855(b) would be less than $200 per airplane. The safety benefits of this provision would be an increase in cargo and baggage compartment fire protection.

Proposed new paragraph (c) would add new fire protection requirements for cargo and baggage compartments for commuter category airplanes. The proposed rule would require one of the following three alternatives:

(1) The compartment just be located where pilots seated at their duty station would easily discover the fire or the compartment must be equipped with a smoke or fire detector system to warn the pilot's station. The compartment must also be accessible for fire extinguisher application.

(2) The compartment may be inaccessible, but must be equipped with a fire detector system that warns the pilot station, and the compartment must have ceiling and sidewall floor panels constructed of materials that have been subjected to and meet the vertical self-extinguishing tests of appendix F to part 23.

(3) The compartment must be constructed and sealed to contain any fire.

The FAA cannot predict the designs of cargo and baggage compartment for future airplanes. If manufacturers choose to use smoke detectors, however, no more than 2 smoke detectors would be required per airplane. An aerospace engineer could determine the most appropriate location and design the smoke detector system in approximately 30 hours at a burdened rate of $60 per hour, for a total cost of $1,800 per certification. Two detectors, including wiring and installation, are estimated to cost about $4,550. Maintenance costs for the smoke detectors would cost approximately $100 per year. Materials that would meet the vertical self-extinguishing tests of appendix F (see option 2 in the discussion above) would result in incremental costs of less than $200 per airplane.

The FAA estimates that it would cost $500 to construct a sealed compartment, or a total of $1,000 for 2 compartments, if the manufacturer chooses that method of complying with the proposed requirement (see option 3 in the discussion above).

Irrespective of the individual compliance method, the benefits of the

proposed provision would come from the increased likelihood that a cargo or baggage compartment fire would either be extinguished or contained.

Section 23.1303 Flight and Navigation Instruments

Revised § 23.1303(d) would add the requirement for a free air temperature indicator for those airplanes whose performance must be based on weight, altitude, and temperature. This requirement already applies to turbine powered airplanes. The proposal would extend the requirement to reciprocating engine powered airplanes of more than 6,000 pounds. Industry sources estimate that the proposed requirement would cost an incremental $500 in engineering design per affected airplane model and $350 per production airplane. Any additional weight would be negligible. The potential benefits of the proposal would accrue from the requirement that the information necessary to determine the performance envelope of the airplane be available to the pilot.

Proposed § 23.1303(g) would identify specific instruments, and limits of those instruments, required for commuter category airplanes. Proposed § 23.1303(g)(1) states that if airspeed limitations vary with altitude, the airspeed indicators must show the variation of the maximum operating limit speed (V_{MO}) with altitude. Industry sources indicate that an airspeed indicator with V_{MO} "pointer" would cost $1,000 more than one without. Two airspeed indicators are required on commuter airplanes, therefore, the incremental cost of this requirement would be $2,000 per commuter category airplane produced. The potential safety benefit of the proposal would derive from the requirement that the information necessary to determine the maximum operating limit speed be available at all altitudes.

Proposed § 23.1303(g)(3) would require (for commuter category IFR-approved airplanes with passenger seating configurations of 10 more) a third, independent, attitude indicator (AI). Industry sources estimate that an aerospace engineer could design and document a third attitude instrument system in 100 hours at a burdened rate of $60 per hour, totalling $6,000 per certification. It is estimated that an AI would cost approximately $8,000, including a standby battery, and that the installation would cost $2,200 for 40 hours of a mechanic's time at a burdened rate of $55 per hour. However, proposed § 23.1311(a)(5), discussed below, would delete the requirement for a rate-of-turn indicator when an independent attitude indicator is installed. The costs associated with a rate-of-turn indicator include: 40 hours of design and documentation costs, $1,000 per indicator, and 40 hours of installation. Therefore, the *incremental* cost for an IFR-approved airplane with a passenger seating capacity of 10 or more would be $3,600 for 60 hours of engineering (100 hours for the AI, minus 40 hours for the rate-of-turn indicator); $7,000 for the instrument ($8,000 for the AI, minus $1,000 for the rate-of-turn indicator); and no additional cost for the installation (40 hours for the AI, minus 40 hours for the rate-of-turn indicator).

The potential safety benefits of a third, independent attitude indicator would derive from the reduced potential for erroneous attitude information. Currently, two attitude instruments are required for a ten passenger, IFR approved commuter category airplane. Service experience has shown that a failure can occur whereby an attitude indicator can appear to be working when it is actually providing incorrect information. During such a failure, pilots may have difficulty determining which instrument to follow, and hazardous flight attitudes may result. A third attitude indicator would allow the crew to retain reliable attitude information even in cases where one instrument is not operating correctly.

Section 23. 1326 Pitot Heat Indication System

Proposed new G23.1326 would require the installation of a pitot tube heat indicating system on those airplanes required to be equipped with a heated pitot tube. Heated pitot tubes ensure that moisture will not freeze in the tube and block or partially block the airspeed system.

A pitot heat indicating system, including an in-line current sensor, panel light, and associated wiring, would cost approximately $500. According to industry sources, an aerospace engineer could design and document such a system in 20 hours at a burdened rate of $60 per hour, totalling $1,200. A mechanic could install the system in 20 hours at a burden rate of $55 per hour, totalling $1,100. The estimated non-recurring cost per certification, therefore, would total $2,800 ($1,200 for design, $500 for the certification airplane's indicator, and $1,100 for installation of that indicator). The estimated cost per production airplane would be $1,600 ($500 for the system and $1,100 for installation).

The National Transportation Safety Board (NTSB) investigated a series of single model accidents that occurred between May 1989 and March 1991. During that period, five fatal accidents and a near fatal incident occurred in the United States. Two additional fatal accidents involving the same airplane model occurred in foreign countries. The NTSB's analysis indicated that four of the five U.S. accidents probably involved ice blockage of the pitot tubes because the pilots failed to activate pitot heat before flying into freezing instrument meteorological conditions. The Board recommended (A–92–86) that the FAA consider requiring a pitot heat operating light on small airplanes certificated to operate in icing conditions.

A pitot heat indicating system would advise the pilots of any inoperative heating element in the pitot tube and that subsequent inaccuracies could result. The proposed provision would reduce the likelihood that pilots would rely on inaccurate airspeed information resulting from a blocked or partially blocked pitot tube.

Section 23.1353 Storage Battery Design and Installation

Proposed new § 23.1353(h) would require that, in the event of a complete loss of the primary electrical power generating system, airplane battery capacity must be sufficient to supply at least 30 minutes of electrical power to those loads essential to the continued safe flight and landing of the airplane.

In some cases, manufacturers may need to install larger batteries with greater capacities to comply with the proposed requirements. The FAA estimates that the size and capacity of a larger battery would add no more than a few pounds (incremental operating costs of less than $10 per year) and $20 to $30 of additional cost for the battery.

On some airplanes, a "load shedding" procedure, where the pilot would sequentially turn off certain equipment, could be required either in place of or in addition to a larger battery. The procedure would be provided in the pilot's operating handbook (POH). The FAA estimates that an aerospace engineer could establish a load shedding procedure in 10 hours at a burdened rate of $60 per hour, for a total cost of $600 per affected certification.

Irrespective of the method of compliance, the proposal would increase the likelihood that sufficient electrical power would be available to safely land the airplane in the event of an electrical generating system failure

Section 23.1359 Electrical System Fire Protection.

Proposed § 23.1359(c) would provide burn criteria for electrical wire and

cables. A proposed revision to appendix F to part 23 would add appropriate wire testing criteria. Demonstrating and documenting that electrical wires and cables meet the requirements of this provision would take an aerospace engineer approximately 4 hours at a burdened rate of $60 per hour, for a total of $240 per certification. The requirement and testing criteria would increase the likelihood that necessary wires and cables would continue to function in the event of a fire.

Section 23.1365 Electrical Cables and Equipment

Proposed § 23.1365(d) would add a requirement for the identification of electrical cables, terminals, and connectors. Different colored wires and/or tags could be used in conjunction with a wiring diagram to identify the cables, terminals, and connectors. The FAA estimates that a draftsman could design and document this identification system in 80 hours at a burdened rate of $55 per hour, a total of $4,400 per certification. Incremental installation costs would be approximately $100 per airplane.

The increasing use of electrical systems in part 23 airplanes has added to the difficultly of wiring installation. The proposed requirement for cable identification would increase the likelihood that cables would be correctly installed initially and would be correctly reinstalled as part of later maintenance or modification.

Section 23.1401 Anticollision Light System

The proposal would revise § 23.1401 to require the installation of an anticollision light system on all part 23 airplanes. Current § 23.1401 requires an anticollision light system only if certification for night operations is requested. Many manufacturers currently install anticollision light systems on all airplanes they produce.

Industry sources estimate that an aerospace engineer could design and document an anticollision light system in 40 hours at a burdened rate of $60 per hour, for a total of $2,400 per affected certification. The system would cost $500 and would take a mechanic approximately 20 hours to install at a burdened rate of $55 per hour, a total of $1,600 per affected airplane ($500 + (20 hours × $55 per hour) = $1,600). The weight penalty would be negligible. Only those future models that would not otherwise have anticollision light systems would actually incur incremental costs as a result of this provision.

The number of airplanes that have been added to the small airplane fleet and the increasing speeds resulting from improved technology, especially turbine engines, warrant the use of anticollision lights for day operations as well as night. The FAA Accident and Incident data for the period 1984 through 1990 show that 269 aircraft were involved in midair collisions in which 108 fatalities occurred. When the data were filtered (to account for night operations, IFR conditions, and aircraft not affected by this proposal), it shows that at least 167 airplanes were involved in accidents or incidents that occurred in day VFR conditions. The reports do not reveal whether the airplanes were using anticollision lights at the time of the accident.

The FAA holds that requiring the installation of anticollision lights on all newly certificated airplanes, and requiring their operation during day operations (as proposed by revised § 91.209 and discussed later in this evaluation), would reduce the number of daylight, midair accidents. Even if the proposed requirement were only 25 percent effective, the 6-year accident history indicates that approximately 17 fatalities could be avoided during a similar 6-year period.

Section 23.1431 Electronic Equipment

This proposal would add three new paragraphs to § 23.1431. Proposed new paragraph (c) would require that airplanes required to be operated by more than one flightcrew member must be evaluated to determine if the flightcrew members can converse without difficulty when they are seated at their duty stations. If the required evaluation shows that the noise level does not impair conversation, no further action would be required. If the evaluation shows that conversation would be difficult, however, an intercommunication system would be required.

The FAA estimates that an evaluation of cockpit noise could be conducted in conjunction with other certification testing, therefore, no incremental costs are associated with the evaluation. An aerospace engineer could design an intercom system in 20 hours at a burdened rate of $60 per hour, for a total of $1,200 per affected certification. The FAA estimates that the addition of an intercom system would cost approximately $500 per airplane. A mechanic could install the system in approximately 20 hours at a burdened rate or $55 per hour. The total incremental production cost for an affected airplane, therefore, would be $1,600 ($500 + 20 hours × $55 per hour)).

Proposed new paragraph (d) would require that if the communication equipment that is installed includes any means of switching from the receive mode to the transmit mode, the equipment must use "off-on" transmitter switching that turns the transmitter off when it is not being used. The cost of this feature is included in the $500 cost of the intercom, described above.

NTSB investigation of at least two commuter accidents determined that excessive cockpit noise levels probably adversely affected the ability of the flight crews to communicate (Bar Harbor Airlines, Flight 1808, August 25, 1985, 8 fatalities; and Henson Airlines, Flight 1517, September 23, 1985, 14 fatalities.)

As a result, the Board recommended (A–86–113) that the FAA require the installation and use of crew interphone systems in the cockpit of airplanes operating under part 135. The benefit of the proposed requirement would derive from the increased likelihood that flightcrew members would be able to converse without difficulty and that the safety hazard of miscommunication would be reduced.

Section 23.1447 Equipment Standards for Oxygen Dispensing Units

Proposed new § 23.1447(a)(4) would require that if radio equipment is installed in an airplane, flightcrew oxygen dispensing units must be designed to allow use of the communication equipment when oxygen is being used.

Industry sources estimate that an oxygen mask with an integral microphone costs $1,000 more than an oxygen mask without a microphone. The costs per affected airplane, therefore, would be $2,000 for two masks. The benefit of the proposed requirement is that it would allow flightcrew communication under all operating conditions, including operations when oxygen is required.

Section 23.1453 Protection of Oxygen Equipment From Rupture

This proposed new section would clarify the rupture protection needed for oxygen system installation. Rupture protection for oxygen systems is currently required by the application of the structures load requirements of part 23. The addition of § 23.1453(a) would clarify the application of these load requirements and would identify the need to consider maximum temperatures and pressures that may be present. Section 23.1453(b) would identify the protection to be provided

for high pressure oxygen sources and the high pressure lines that connect these sources to the oxygen system shutoff valves.

Industry sources estimate that an aerospace engineer could analyze and document the loads on each element of the oxygen system in 16 hours at a burdened rate of $60 per hour, for a total cost of $960. The routing of oxygen pressure sources and lines to protect them from unsafe temperatures and crash landings would be part of an airplane's basic design and would not impose incremental costs.

Section 91.209 Aircraft Lights

Proposed new § 91.209(b) would require airplanes equipped with an anticollision light system to operate those lights during all operations, including daytime VFR.

The incremental cost of this provision would be incurred for light bulb replacement. The FAA estimates that a light bulb for an anticollision light system costs approximately $50 and that this provision would necessitate an incremental bulb replacement every two years. Accordingly, the cost is projected to equal $25 per year, per affected operating airplane.

In summary, the FAA holds that the benefits of the proposed rule, though not directly quantifiable, would exceed the expected costs.

Regulatory Flexibility Determination

The Regulator Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionately burdened by Government regulations. The RFA requires a Regulatory Flexibility Analysis if a proposed rule would have a significant economic impact, either detrimental or beneficial, on a substantial number of small entities. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, establishes threshold cost values and small entity size standards for complying with RFA review requirements in FAA rulemaking actions. The proposed amendments would not have a significant economic impact on a substantial number of small entities.

Trade Impact Assessment

The proposed rule would not constitute a barrier to international trade, including the export of American goods and services to foreign countries and the import of foreign goods and services into the United States. Instead, the proposed systems airworthiness standards would be harmonized with those of foreign aviation authorities and would lessen the restraints on trade.

Federalism Implications

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

The FAA proposes to revise the airworthiness standards to provide systems and equipment standards for normal, utility, acrobatic, and commuter airplanes that are the same as the standards that will be proposed for the same category airplanes by the Joint Aviation Authorities in Europe. If adopted, the proposed revision would reduce the regulatory burden on the United States and European airplane manufacturers by relieving them on the need to show compliance with different standards each time they seek certification approval of an airplane in a different country.

For the reasons discussed in the preamble, and based on the findings in the Regulatory Evaluation, the FAA has determined that this proposed regulation is not significant under Executive Order 12866. In addition, the FAA certifies that this proposal, if adopted, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This proposal is not considered significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). An initial regulatory evaluation of the proposal has been placed in the docket. A copy may be obtained by contacting the person identified under **FOR FURTHER INFORMATION CONTACT:**

List of Subjects

14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols.

14 CFR Part 91

Agriculture, Aircraft, Airmen, Airports, Air traffic control, Aviation safety, Canada, Cuba, Freight, Mexico, Noise control, Political candidates, Reporting and recordkeeping requirements, Safety, Smoking.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend parts 23 and 91 of the Federal Aviation Regulations (14 CFR part 23 and 91) as follows:

PART 23—AIRWORTHINESS STANDARDS: NORMAL, UTILITY, ACROBATIC, AND COMMUTER CATEGORY AIRPLANES

1. The authority citation for part 23 continues to read as follows:

Authority: 49 U.S.C. app. 1344, 1354(a), 1355, 1421, 1423, 1425, 1428, 1429, 1430; 49 U.S.C. 106(g).

2. Section 23.677 is amended by revising paragraph (a) to read as follows:

§ 23.677 Trim systems.

(a) Proper precautions must be taken to prevent inadvertent, improper, or abrupt trim tab operation. There must be means near the trim control to indicate to the pilot the direction of trim control movement relative to airplane motion. In addition, there must be means to indicate to the pilot the position of the trim device with respect to both the range of adjustment and, in the case of lateral and directional trim, the neutral position. This means must be visible to the pilot and must be located and designed to prevent confusion. The pitch trim indicator must be clearly marked with a position or range within which it has been demonstrated that take-off is safe for all center or gravity positions and each flap position approved for takeoff.

* * * * *

3. A new § 23.691 is added to read as follows:

§ 23.691 Artificial stall barrier system.

If the function of an artificial stall barrier, for example, stick pusher, is necessary to show compliance with § 23.201(c), the system must comply with the following:

(a) With the system adjusted for operation, the plus and minus airspeeds at which downward pitching control will be provided must be established.

(b) Considering the plus and minus airspeed tolerances established by paragraph (a) of this section, and airspeed must be selected for the activation of the downward pitching control that provides a safe margin above any airspeed at which any unsatisfactory stall characteristics occur.

(c) In addition to the stall warning required by § 23.207, a warning that is clearly distinguishable to the pilot under all expected flight conditions without requiring the pilot's attention, must be provided for faults that would

prevent the system from providing the required pitching motion.

(d) Each system must be designed so that the artificial stall barrier can be quickly and positively disengaged by the pilots to prevent unwanted downward pitching of the airplane by a quick release (emergency) control that meets the requirements of § 23.1329(b).

(e) A preflight check of the complete system must be established and the procedure for this check made available in the Airplane Flight Manual (AFM). Preflight checks that are critical to the safety of the airplane must be included in the limitations section of the AFM.

(f) For those airplanes whose design includes an autopilot system:

(1) A quick release (emergency) control installed in accordance with § 23.1329(b) may be used to meet the requirements of paragraph (d) of this section, and

(2) The pitch servo for that system may be used to provide the stall downward pitching motion.

(g) In showing compliance with § 23.1309, the system must be evaluated to determine the effect that any announced or unannounced failure may have on the continued safe flight and landing of the airplane or the ability of the crew to cope with any adverse conditions that may result from such failures. This evaluation must consider the hazards that would result from the airplane's flight characteristics if the system was not provided, and the hazard that may result from unwanted downward pitching motion, which could result from failures at airspeeds above the selected stall speed.

4. Section 23.697 is amended by adding a new paragraph (c) to read as follows:

§ 23.697 Wing flap controls.

* * * * *

(c) If compliance with § 23.145(b)(3) necessitates wing flap retraction to positions that are not fully retracted, the wing flap control lever settings corresponding to those positions must be positively located such that a definite change of direction of movement of the lever is necessary to select settings beyond those settings.

5. Section 23.701 is amended by revising paragraphs (a)(1) and (a)(2) to read as follows:

§ 23.701 Flap interconnection.

(a) * * *

(1) Be synchronized by a mechanical interconnection between the movable flap surfaces that is independent of the flap drive system; or by an approved equivalent means; or

(2) Be designed so that the occurrence of any failure of the flap system that would result in an unsafe flight characteristic of the airplane is extremely improbable; or

* * * * *

6. A new § 23.703 is added to read as follows:

§ 23.703 Takeoff warning system.

For commuter category airplanes, unless it can be shown that a lift or longitudinal trim device which affects the takeoff performance of the aircraft would not give an unsafe takeoff configuration when selected out of an approved takeoff position, a takeoff warning system must be installed and meet the following requirements:

(a) The system must provide to the pilots an aural warning that is automatically activated during the initial portion of the takeoff roll if the airplane is in a configuration that would not allow a safe takeoff. The warning must continue until—

(1) The configuration is changed to allow safe takeoff, or

(2) Action is taken by the pilot to abandon the takeoff roll.

(b) The means used to activate the system must function properly for all authorized takeoff power settings and procedures and throughout the ranges of takeoff weights, altitudes and temperatures for which certification is requested.

§ 23.723 [Amended]

7. Section 23.723(b) is amended by changing the word "reserved" to "reserve".

8. Section 23.729 is amended by revising paragraph (e) and by adding a new paragraph (g) to read as follows:

§ 23.729 Landing gear extension and retraction system.

* * * * *

(e) *Position indicator.* If a retractable landing gear is used, there must be a landing gear position indicator (as well as necessary switches to actuate the indicator) or other means to inform the pilot that each gear is secured in the extended (or retracted) position. If switches are used, they must be located and coupled to the landing gear mechanical system in a manner that prevents an erroneous indication of either "down and locked" if each gear is not in the fully extended position, or of "up and locked" if each landing gear is not in the fully retracted position.

* * * * *

(g) *Equipment located in the landing gear bay.* If the landing gear bay is used as the location for equipment other than the landing gear, that equipment must be designed and installed to minimize damage.

9. Section 23.735 is amended by redesignating paragraph (c) as paragraph (d), by revising the introductory text of paragraph (a), and by adding new paragraphs (c) and (e) to read as follows:

§ 23.735 Brakes.

(a) Brakes must be provided. The landing brake kinetic energy capacity rating of each main wheel brake assembly must not be less than the kinetic energy absorption requirements determined under either of the following methods:

* * * * *

(c) During the landing distance determination required by § 23.75, the pressure on the wheel braking system must not exceed the pressure specified by the brake manufacturer.

* * * * *

(e) In addition, for commuter category airplanes, the rejected takeoff brake kinetic energy capacity rating of each main wheel brake assembly must not be less than the kinetic energy absorption requirements determined under either of the following methods—

(1) The brake kinetic energy absorption requirements must be based on a conservative rational analysis of the sequence of events expected during a rejected takeoff at the design takeoff weight.

(2) Instead of a rational analysis, the kinetic energy absorption requirements for each main wheel brake assembly may be derived from the following formula—

$$KE = 0.0443\ WV^2/N$$

where,

KE=Kinetic energy per wheel (ft.-lbs.);
W=Design takeoff weight (lbs.);
V=Ground speed associated with the maximum value of V_1 selected in accordance with § 23.51(c)(1);
N=Number of main wheels with brakes.

10. A new § 23.745 is added to read as follows:

§ 23.745 Nose/tail wheel steering.

(a) If nose/tail wheel steering is installed, it must be demonstrated that its use does not require exceptional pilot skill during takeoff and landing, in crosswinds and in the event of an engine failure; or its use must be limited to low speed maneuvering.

(b) Movement of the pilot's steering control must not interfere with the retraction or extension of the landing gear.

11. Section 23.775 is amended by revising paragraphs (a) and (c), by redesignating paragraph (d) as (e) and paragraph (e) as (d), by revising the newly designated paragraph (e), and by adding a new paragraph (h) to read as follows:

§ 23.775 Windshields and windows.

(a) The internal panels of windshields and windows must be constructed of a nonsplintering material, such as nonsplintering safety glass.

* * * * *

(c) On pressurized airplanes, if certification for operation up to and including 25,000 feet is requested, an enclosure canopy including a representative part of the installation must be subjected to special tests to account for the combined effects of continuous and cyclic pressurization loadings and flight loads, or compliance with the fail-safe requirements of paragraph (d) of this section must be shown.

* * * * *

(e) The windshield and side windows forward of the pilot's back when the pilot is seated in the normal flight position must have a luminous transmittance value of not less than 70 percent.

* * * * *

(h) In addition, for commuter category airplanes, the following applies:

(1) Windshield panes directly in front of the pilots in the normal conduct of their duties, and the supporting structures for these panes must withstand, without penetration, the impact of a two-pound bird when the velocity of the airplane (relative to the bird along the airplane's flight path) is equal to the airplane's maximum approach flap speed.

(2) The windshield panels in front of the pilots must be arranged so that, assuming the loss of vision through any one panel, one or more panels remain available for use by a pilot seated at a pilot station to permit continued safe flight and landing.

12. Section 23.783 is amended by revising paragraph (b) and by adding a new paragraph (g) to read as follows:

§ 23.783 Doors.

* * * * *

(b) Passenger doors must not be located with respect to any propeller disk or any other potential hazard so as to endanger persons using that door.

* * * * *

(g) If lavatory doors are installed, they must be designed to preclude an occupant from becoming trapped inside the lavatory. If a locking mechanism is installed, it must be capable of being unlocked from outside of the lavatory.

13. Section 23.785 is amended by adding introductory text and by revising paragraph (b) to read as follows:

§ 23.785 Seats, berths, litters, safety belts and shoulder harnesses.

There must be a seat or berth for each occupant that meets the following:

* * * * *

(b) Each forward-facing or aft-facing seat/restraint system in normal, utility, or acrobatic category airplanes must consist of a seat, a safety belt, and a shoulder harness, with a metal-to-metal latching device as required by § 23.1413, that are designed to provide the occupant protection provisions required in § 23.562. Other seat orientations must provide the same level of occupant protection as a forward-facing or aft-facing seat with a safety belt and a shoulder harness, and must provide the protection provisions of § 23.562.

* * * * *

14. Section 23.787 is revised to read as follows:

§ 23.787 Baggage and cargo compartments.

(a) Each baggage and cargo compartment must:

(1) Be designed for its placarded maximum weight of contents and for the critical load distributions at the appropriate maximum load factors corresponding to the flight and ground load conditions of this part.

(2) Have means to prevent the contents of any compartment from becoming a hazard by shifting, and to protect any controls, wiring, lines, equipment or accessories whose damage or failure would affect safe operations.

(3) Have a means to protect occupants from injury by the contents of any compartment, located aft of the occupants and separated by structure, when the ultimate forward inertial load factor is 9g and assuming the maximum allowed baggage or cargo weight for the compartment.

(b) Designs that provide for baggage or cargo to be carried in the same compartment as passengers must have a means to protect the occupants from injury when the baggage or cargo is subjected to the inertial loads resulting from the ultimate static load factors of § 23.561(b)(3), assuming the maximum allowed baggage or cargo weight for the compartment.

(c) For airplanes that are used only for the carriage of cargo, the flightcrew emergency exits must meet the requirements of § 23.807 under any cargo loading conditions.

15. A new § 23.791 is added to read as follows:

§ 23.791 Passenger information signs.

For those airplanes in which the flightcrew members cannot observe the other occupants' seats or where the flightcrew members' compartment is separated from the passenger compartment, there must be at least one illuminated sign (using either letters or symbols) notifying all passengers when seat belts should be fastened. Signs that notify when seat belts should be fastened must:

(a) When illuminated, be legible to each person seated in the passenger compartment under all probable lighting conditions; and

(b) Be installed so that a flightcrew member can, when seated at the flightcrew member's station, turn the illumination on and off.

16. Section 23.807 is amended by revising paragraphs (b) introductory text and (b)(5) and by adding new paragraphs (a)(4) and (b)(6) to read as follows:

§ 23.807 Emergency exits.

(a) * * *

(4) Emergency exits must not be located with respect to any propeller disk or any other potential hazard so as to endanger persons using that exit.

(b) *Type and operation.* Emergency exits must be movable windows, panels, canopies, or external doors, openable from both inside and outside the airplane, that provide a clear and unobstructed opening large enough to admit a 19-by-26-inch ellipse. Auxiliary locking devices used to secure the airplane must be designed to be overridden by the normal internal opening means. The inside handles of emergency exits that open outward must be adequately protected against inadvertent operation. In addition, each emergency exit must—

* * * * *

(5) In the case of acrobatic category airplanes, allow each occupant to abandon the airplane at any speed between V_{SO} and V_D; and

(6) In the case of utility category airplanes certificated for spinning, allow each occupant to abandon the airplane at the highest speed likely to be achieved in the maneuver for which the airplane is certificated.

* * * * *

§ 23.841 [Amended]

17. Section 23.841 is amended in paragraph (a) by removing the number "31,000" and replacing it with "25,000".

18. Section 23.853 is amended by revising the section heading to read as follows:

§ 23.853 Passenger and crew compartment interiors.

* * * * *

19. A new § 23.855 is added to read as follows:

§ 23.855 Cargo and baggage compartment fire protection.

(a) Sources of heat within each cargo and baggage compartment that are capable of igniting the compartment contents must be shielded and insulated to prevent such ignition.

(b) Each cargo and baggage compartment must be constructed of materials that meet the appropriate provisions of § 23.853(d)(3).

(c) In addition for commuter category airplanes, each cargo and baggage compartment must:

(1) Be located where the presence of a fire would be easily discovered by the pilots when seated at their duty station, or it must be equipped with a smoke or fire detector system to give a warning at the pilots' station, and provide sufficient access to enable a pilot to effectively reach any part of the compartment with the contents of a hand held fire extinguisher, or

(2) Be equipped with a smoke or fire detector system to give a warning at the pilots' station and have ceiling and sidewall liners and floor panels constructed of materials that have been subjected to and meet the 45 degree angle test of Appendix F of this part. The flame may not penetrate (pass through) the material during application of the flame or subsequent to its removal. The average flame time after removal of the flame source may not exceed 15 seconds, and the average glow time may not exceed 10 seconds. The compartment must be constructed to provide fire protection that is not less than that required of its individual panels; or

(3) Be constructed and sealed to contain any fire within the compartment.

20. Section 23.867 is amended by revising the heading that precedes the section and the section heading to read as follows:

Electrical Bonding and Lightning Protection

§ 23.867 Electrical bonding and protection against lightning and static electricity.

* * * * *

21. Section 23.1303 is amended by revising the introductory text; by amending paragraph (d) by inserting the words "reciprocating engine-powered airplanes of more than 6,000 pounds maximum weight and" between the words "For" and "turbine"; by amending paragraph (e) concluding text by adding a line to read, "The lower limit of the warning device must be set to minimize nuisance warning;" at the end of the paragraph and by adding new paragraphs (f) and (g) to read as follows:

§ 23.1303 Flight and navigation instruments.

The following are the minimum required flight and navigation instruments:

* * * * *

(f) When an attitude display is installed, the instrument design must not provide any means, accessible to the flightcrew, of adjusting the relative positions of the attitude reference symbol and the horizon line beyond that necessary for parallax correction.

(g) In addition, for commuter category air planes:

(1) If airspeed limitations vary with altitude, the airspeed indicator must have a maximum allowable airspeed indicator showing the variation of V_{MO} with altitude.

(2) The altimeter must be a sensitive type.

(3) Having a passenger seating configuration of 10 or more, excluding the pilot's seats and that are approved for IFR operations, a third attitude instrument must be provided that:

(i) Is powered from a source independent of the electrical generating system;

(ii) Continues reliable operation for a minimum of 30 minutes after total failure of the electrical generating system;

(iii) Operates independently of any other attitude indicating system;

(iv) Is operative without selection after total failure of the electrical generating system;

(v) Is located on the instrument panel in a position acceptable to the Administrator that will make it plainly visible to and usable by any pilot at the pilot's station; and

(vi) Is appropriately lighted during all phases of operation.

§ 23.1307 [Amended]

22. Section 23.1307 is amended by removing paragraphs (a) and (b); and by removing the designation from paragraph (c).

23. Section 23.1309 is amended by adding a new paragraph (a)(4) to read as follows:

§ 23.1309 Equipment, systems, and installations.

(a) * * *

(4) In a commuter category airplane, must be designed to safeguard against hazards to the airplane in the event of their malfunction or failure.

* * * * *

24. Section 23.1311 is revised to read as follows:

§ 23.1311 Electronic display instrument systems.

(a) Electronic display indicators, including those with features that make isolation and independence between powerplant instrument systems impractical, must:

(1) Meet the arrangement and visibility requirements of § 23.1321.

(2) Be easily legible under all lighting conditions encountered in the cockpit, including direct sunlight, considering the expected electronic display brightness level at the end of an electronic display indicator's useful life. Specific limitations on display system useful life must be contained in the Instructions for Continued Airworthiness required by § 23.1529.

(3) Not inhibit the primary display of attitude, airspeed, altitude, or powerplant parameters needed by any pilot to set power within established limitations, in any normal mode of operation.

(4) Not inhibit the primary display of engine parameters needed by any pilot to properly set or monitor powerplant limitations during the engine starting mode of operation.

(5) Have an independent magnetic direction indicator and either an independent secondary mechanical altimeter, airspeed indicator, and attitude instrument or individual electronic display indicators for the altimeter, airspeed, and attitude indicator that are independent from the airplane's primary electrical power system. These secondary instruments may be installed in panel positions that are displaced from the primary positions specified by § 23.1321(d), but must be located where they meet the pilots' visibility requirements of § 23.1321(a).

(6) Incorporate sensory cues for the pilot that are equivalent to those in the instrument being replaced by the electronic display indicators.

(7) Incorporate visual displays of instrument markings, required by §§ 23.1541 through 23.1553, or visual displays that alert the pilot to abnormal operational values or approaches to established limitation values, for each parameter required to be displayed by this part.

(b) The electronic display indicators, including their systems and installations, and considering other airplane systems, must be designed so that one display of information essential for continued safe flight and landing will remain available to the crew, without need for immediate action by any pilot for continued safe operation, after any single failure or probable combination of failures.

(c) As used in this section, "instrument" includes devices that are physically contained in one unit, and devices that are composed of two or more physically separate units or components connected together (such as a remote indicating gyroscopic direction indicator that includes a magnetic sensing element, a gyroscopic unit, an amplifier, and an indicator connected together). As used in this section, "primary" display refers to the display of a parameter that is located in the instrument panel such that the pilot looks at it first when wanting to view that parameter.

§ 23.1321 [Amended]

25. Section 23.1321 is amended by removing the words "certificated for flight under instrument flight rules or of more than 6,000 pounds maximum weight" from paragraph (d) introductory test.

26. Section 23.1323 is amended by redesignating paragraph (c) as (e); by removing paragraph (d); by redesignating paragraph (e) as new paragraph (d); by removing the words "in flight and" from the first sentence of redesignated paragraph (e); and by adding new paragraphs (c) and (f) to read as follows:

§ 23.1323 Airspeed indicating system.

* * * * *

(c) The design and installation of each airspeed indicating system must provide positive drainage of moisture from the pitot static plumbing.

* * * * *

(f) For commuter category airplanes, where duplicate airspeed indicators are required, their respective pitot tubes must be far enough apart to avoid damage to both tubes in a collision with a bird.

§ 23.1325 [Amended]

27. Section 23.1325 is amended by inserting the words "or icing" between the words "meteorological" and "conditions" in paragraph (g).

28. A new § 23.1326 is added to read as follows:

§ 23.1326 Pitot heat indication systems.

If a flight instrument pitot heating system is installed to meet the requirements specified in § 23.1323(d), an indication system must be provided to indicate to the flight crew when that pitot heating system is not operating. The indication system must comply with the following requirements:

(a) The indication provided must incorporate an amber light that is in clear view of a flightcrew member.

(b) The indication provided must be designed to alert the flight crew if either of the following conditions exist:

(1) The pitot heating system is switched "off".

(2) The pitot heating system is switched "on" and any pitot tube heating element is inoperative.

§ 23.1329 [Amended]

29. Section 23.1329(b) is amended by adding the parenthetical phrase "(both stick controls, if the airplane can be operated from either pilot seat)" between the words, "or on the stick control," and the word "such".

30. Section 23.1337 is amended by revising the section heading, by revising the introductory text of paragraph (b), by redesignating paragraphs (b)(4) and (b)(5) as paragraph (b)(5) and (b)(6), respectively, and by adding a new paragraph (b)(4) to read as follows:

§ 23.1337 Powerplant instruments installation.

* * * * *

(b) *Fuel quantity indication.* There must be a means to indicate to the flightcrew members the quantity of usable fuel in each tank during flight. An indicator calibrated in appropriate units and clearly marked to indicate those units must be used. In addition:

* * * * *

(4) There must be a means to indicate the amount of usable fuel in each tank when the airplane is on the ground (such as by a stick gauge);

* * * * *

31. Section 23.1351 is amended by removing paragraph (b)(4), by redesignating paragraphs (b)(5) as (b)(4), by adding a sentence to the end of paragraph (f) that reads, "The external power connection must be located so that its use will not result in a hazard to the airplane or ground personnel", and by revisiting paragraphs (b)(2), (b)(3), and (c)(3) to read as follows:

§ 23.1351 General.

* * * * *

(b) * * *

(2) Electric power source must function properly when connected in combination or independently.

(3) No failure or malfunction of any electric power source may impair the ability of any remaining source to supply load circuits essential for safe operation.

* * * * *

(c) * * *

(3) Automatic means must be provided to prevent either damage to any generator/alternator or adverse effects on the airplane electrical system due to reverse current. A means must also be provided to disconnect each generator/alternator from the battery and other generators/alternators.

* * * * *

32. Section 23.1353 is amended by adding a new paragraph (h) to read as follows:

§ 23.1353 Storage battery design and installation.

* * * * *

(h) In the event of a complete loss of the primary electrical power generating system, the battery must be capable of providing at least 30 minutes of electrical power to those loads that are essential to continue safe flight and landing. The 30 minute time period includes the time needed for the pilots to recognize the loss of generated power and take appropriate load shedding action.

33. A new § 23.1359 is added to read as follows:

§ 23.1359 Electrical system fire protection.

(a) Each component of the electrical system must meet the applicable fire protection requirement of §§ 23.863 and 23.1182.

(b) Electrical cables, terminals, and equipment in designated fire zones that are used during emergency procedures must be fire-resistant.

(c) Insulation on electrical wire and electrical cable must be self-extinguishing when tested at an angle of 60 degrees in accordance with the applicable portions of Appendix F of this part, or other approved equivalent methods. The average burn length must not exceed 3 inches (76 mm) and the average flame time after removal of the flame source must not exceed 30 seconds. Drippings from the test specimen must not continue to flame for more than an average of 3 seconds after falling.

§ 23.1361 [Amended]

34. Section 23.1361(c) is amended by removing the last two words "in flight".

35. Section 23.1365 is amended by revising paragraph (b) and by adding new paragraphs (d), (e), and (f) to read as follows:

§ 23.1365 Electrical cables and equipment.

* * * * *

(b) Any equipment that is associated with any electrical cable installation and that would overheat in the event of circuit overload or fault must be flame resistant. The equipment and the electrical cables must not emit dangerous quantities of toxic fumes.

* * * * *

(d) Means of identification must be provided for electrical cables, terminals, and connectors.

(e) Electrical cables must be installed such that the risk of mechanical damage and/or damage caused by fluids, vapors, or sources of heat, is minimized.

(f) Where a cable cannot be protected by a circuit protection device or other overload protection, it must not cause a fire hazard under fault conditions.

36. Section 23.1383 is revised to read as follows:

§ 23.1383 Taxi and landing lights.

Each taxi and landing light must be designed and installed so that:

(a) No dangerous glare is visible to the pilots.

(b) The pilot is not seriously affected by halation.

(c) It provides enough light for night operations.

(d) It does not cause a fire hazard in any configuration.

37. Section 23.1401 is amended by revising the introductory text of paragraph (a) to read as follows:

§ 23.1401 Anticollision light system.

(a) *General.* The airplane must have an anticollision light system that:

* * * * *

38. Section 23.1431 is amended by adding new paragraphs (c), (d), and (e) to read as follows:

§ 23.1431 Electronic equipment.

* * * * *

(c) For those airplanes required to have more than one flightcrew member, or whose operation will require more than one flightcrew member, the cockpit must be evaluated to determine if the flightcrew members, when seated at their duty station, can converse without difficulty. If the airplane design includes provision for the use of communication headsets, the evaluation must also consider conditions where headsets are being used. If the evaluation shows conditions under which it will be difficult to converse, an intercommunication system must be provided.

(d) If installed communication equipment includes transmitter "off-on" switching, that switching means must be designed to return from the "transmit" to the "off" position when it is released and ensure that the transmitter will return to the off (non transmitting) state.

(e) If provisions for the use of communication headsets are provided it must be demonstrated that the flightcrew members will receive all aural warnings when any headset is being used.

39. Section 23.1435 is amended by revising paragraph (c) to read as follows:

§ 23.1435 Hydraulic systems.

* * * * *

(c) *Accumulators.* A hydraulic accumulator or reservoir may be installed on the engine side of any firewall if—

(1) It is an integral part of an engine or propeller system, or

(2) The reservoir is nonpressurized and the total capacity of all such nonpressurized reservoirs is one quart or less.

40. Section 23.1447 is amended by revising paragraphs (d) and (e) and by adding a new paragraph (a)(4) to read as follows:

§ 23.1447 Equipment standards for oxygen dispensing units.

* * * * *

(a) * * *

(4) If radio equipment is installed, the flightcrew oxygen dispensing units must be designed to allow the use of that equipment and to allow communication with any other required crew member while at their assigned duty station.

* * * * *

(d) For a pressurized airplane designed to operate at flight altitudes above 25,000 feet (MSL), the dispensing units must meet the following:

(1) The dispensing units for passengers must be connected to an oxygen supply terminal and be immediately available to each occupant wherever seated.

(2) The dispensing units for crewmembers must be automatically presented to each crewmember before the cabin pressure altitude exceeds 15,000 feet, or the units must be of the quick-donning type, connected to an oxygen supply terminal that is immediately available to crewmembers at their station.

(e) If certification for operation above 30,000 feet is requested, the dispensing units for passengers must be automatically presented to each occupant before the cabin pressure altitude exceeds 15,000 feet.

* * * * *

41. A new § 23.1451 is added to read as follows:

§ 23.1451 Fire protection for oxygen equipment.

Oxygen equipment and lines must:

(a) Not be installed in any designated fire zones.

(b) Be protected from heat that may be generated in, or escape from, any designated fire zone.

(c) Be installed so that escaping oxygen cannot come in contact with and cause ignition of grease, fluid, or vapor accumulations that are present in normal operation or that may result from the failure or malfunction of any other system.

42. A new § 23.1453 is added to read as follows:

§ 23.1453 Protection of oxygen equipment from rupture.

(a) Each element of the oxygen system must have sufficient strength to withstand the maximum pressure and temperature, in combination with any externally applied loads arising from consideration of limit structural loads, that may be acting on that part of the system.

(b) High pressure oxygen sources and the lines between the source and the shutoff means must be:

(1) Protected from unsafe temperatures; and

(2) Located where the probability and hazard of rupture in a crash landing are minimized.

43. Section 23.1461 is amended by revising paragraph (a) to read as follows:

§ 23.1461 Equipment containing high energy rotors.

(a) Equipment, such as Auxiliary Power Units (APU) and constant speed drive units, containing high energy rotors must meet paragraphs (b), (c), or (d) of this section.

* * * * *

44. Appendix F to part 23 is amended by revising the introductory paragraph, by amending paragraph (c) to change the reference from paragraph (e) to paragraph (g), by amending paragraph (d) to change the reference from paragraph (f) to paragraph (h), by redesignating current paragraph (f) as paragraph (h), and by revising paragraph (b) and adding new paragraphs (f) and (g) to read as follows:

Appendix F to Part 23—Test Procedure

An acceptable test procedure for self-extinguishing materials for showing compliance with §§ 23.853, 23.855 and 23.1359.

* * * * *

(b) *Specimen configuration.* Except as provided for materials used in electrical wire and cable insulation and in small parts, materials must be tested either as a section cut from a fabricated part as installed in the airplane or as a specimen simulating a cut section, such as: a specimen cut from a flat sheet of the material or a model of the fabricated part. The specimen may be cut from any location in a fabricated part; however, fabricated units, such as sandwich panels, may not be separated for a test. The specimen thickness must be no thicker than the minimum thickness to be qualified for use in the airplane,

except that: (1) Thick foam parts, such as seat cushions, must be tested in ½-inch thickness; (2) when showing compliance with § 23.853(d)(3)(v) for materials used in small parts that must be tested, the materials must be tested in no more than ⅛-inch thickness; (3) when showing compliance with § 23.1359(c) for materials used in electrical wire and cable insulation, the wire and cable specimens must be the same size as used in the airplane. In the case of fabrics, both the warp and fill direction of the weave must be tested to determine the most critical flammability conditions. When performing the tests prescribed in paragraphs (d) and (e) of this appendix, the specimen must be mounted in a metal frame so that (1) in the vertical tests of paragraph (d) of this appendix, the two long edges and the upper edge are held securely; (2) in the horizontal test of paragraph (e) of this appendix, the two long edges and the edge away from the flame are held securely; (3) the exposed area of the specimen is at least 2 inches wide and 12 inches long, unless the actual size used in the airplane is smaller; and (4) the edge to which the burner flame is applied must not consist of the finished or protected edge of the specimen but must be representative of the actual cross section of the material or part installed in the airplane. When performing the test prescribed in paragraph (f) of this appendix, the specimen must be mounted in a metal frame so that all four edges are held securely and the exposed area of the specimen is at least 8 inches by 8 inches.

* * * * *

(f) *Forty-five degree test.* A minimum of three specimens must be tested and the results averaged. The specimens must be supported at an angle of 45 degrees to a horizontal surface. The exposed surface when installed in the aircraft must be face down for the test. The specimens must be exposed to a Bunsen or Tirrill burner with a nominal ⅜-inch I.D. tube adjusted to give a flame of 1½ inches in height. The minimum flame temperature measured by a calibrated thermocouple pyrometer in the center of the flame must be 1550 °F. Suitable precautions must be taken to avoid drafts. The flame must be applied for 30 seconds with one-third contacting the material at the center of the specimen and then removed. Flame time, glow time, and whether the flame penetrates (passes through) the specimen must be recorded.

(g) *Sixty-degree test.* A minimum of three specimens of each wire specification (make and size) must be tested. The specimen of wire or cable (including insulation) must be placed at an angle of 60 degrees with the horizontal in the cabinet specified in paragraph (c) of this appendix, with the cabinet door open during the test or placed within a chamber approximately 2 feet high x 1 foot x 1 foot, open at the top and at one vertical side (front), that allows sufficient flow of air for complete combustion but is free from drafts. The specimen must be parallel to and approximately 6 inches from the front of the chamber. The lower end of the specimen must be held rigidly clamped. The upper end of the specimen must pass over a pulley or rod and must have an appropriate weight attached to it so that the specimen is held tautly throughout the flammability test. The test specimen span between lower clamp and upper pulley or rod must be 24 inches and must be marked 8 inches from the lower end to indicate the central point for flame application. A flame from a Bunsen or Tirrill burner must be applied for 30 seconds at the test mark. The burner must be mounted underneath the test mark on the specimen, perpendicular to the specimen and at an angle of 30 degrees to the vertical plane of the specimen. The burner must have a nominal bore of three-eighths inch, and must be adjusted to provide a three-inch-high flame with an inner cone approximately one-third of the flame height. The minimum temperature of the hottest portion of the flame, as measured with a calibrated thermocouple pyrometer, may not be less than 1,750 °F. The burner must be positioned so that the hottest portion of the flame is applied to the test mark on the wire. Flame time, burn length, and flaming time of drippings, if any, must be recorded. The burn length determined in accordance with paragraph (h) of this appendix must be measured to the nearest one-tenth inch. Breaking of the wire specimen is not considered a failure.

* * * * *

PART 91—GENERAL OPERATING AND FLIGHT RULES

45. The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 21, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 *et seq.*; E.O. 11514; 49 U.S.C. 106(g).

46. Section 91.205 is amended by redesignating paragraphs (b)(11) through (b)(16) as paragraphs (b)(12) through (b)(17), respectively, and by adding a new paragraph (b)(11) to read as follows:

§ 91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

* * * * *

(b) * * *

(11) For small civil airplanes certificated after [INSERT DATE OF THIS AMENDMENT], in accordance with part 23, as amended by amendment 23-[INSERT AMENDMENT NUMBER], an approved aviation red or aviation white anticollision light system. In the event of failure of any light of the anticollision light system, operation of the aircraft may continue to a location where repairs or replacement can be made.

* * * * *

47. Section 91.209 is revised to read as follows:

§ 91.209 Aircraft lights.

No person may:

(a) During the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than 6 degrees below the horizon)—

(1) Operate an aircraft unless it has lighted position lights;

(2) Park or move an aircraft in, or in dangerous proximity to, a night flight operations area of an airport unless the aircraft—

(i) Is clearly illuminated;

(ii) Has lighted position lights; or

(iii) Is in an area that is marked by obstruction lights;

(3) Anchor an aircraft unless the aircraft—

(i) Has lighted anchor lights; or

(ii) Is in an area where anchor lights are not required on vessels; or

(b) Operate an aircraft that is equipped with an anticollision light system, unless it has lighted anticollision lights. However, the anticollision lights need not be lighted when the pilot-in-command determines that, because of operating conditions, it would be in the interest of safety to turn the lights off.

Issued in Washington DC on July 14, 1994.

Thomas E. McSweeny,

Director, Aircraft Certification Service.

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