

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

FCC 95-230

In the Matter of)	
)	
Amendment of Parts 21 and 74 of the)	
Commission's Rules With Regard to)	MM Docket No. 94-131
Filing Procedures in the Multipoint)	
Distribution Service and in the)	
Instructional Television Fixed Service)	
)	
and)	
)	
Implementation of Section 309(j) of the)	PP Docket No. 93-253
Communications Act - Competitive Bidding)	

REPORT AND ORDER

Adopted: June 15, 1995; Released: June 30, 1995

By the Commission: Chairman Hundt dissenting in part and issuing a statement; Commissioners Quello and Barrett issuing separate statements; and Commission Ness dissenting in part and issuing a statement.

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I. INTRODUCTION AND SUMMARY

1. By this action, we adopt rules to facilitate the development and rapid deployment of wireless cable services.¹ As a result of our actions in prior proceedings, wireless cable operators

¹ Wireless cable programming to subscribers resembles cable television, but instead of coaxial cable, wireless cable uses microwave channels. Our use of the term "wireless cable" does not imply that it constitutes cable television for statutory or regulatory purposes.

that use spectrum in the Multipoint Distribution Service (MDS), often supplemented with leased channels from the Instructional Television Fixed Service (ITFS), have begun to provide a competitive alternative to wired cable and other multichannel video programming distributors.² The rules we now adopt will accelerate that process by setting streamlined measures to distribute unused MDS spectrum through competitive bidding and by establishing a protected service area for MDS stations that is large enough to allow operators flexibility they need to design viable and competitive wireless cable systems. Adoption of these rules will enable the Commission to lift the current freeze on filing new MDS applications.³

2. Specifically, we adopt in this order a licensing plan under which we will allot, through a simultaneous multiple round bidding process, one MDS authorization for each of the 487 Basic Trading Areas (BTAs) and six additional BTA-like geographic areas.⁴ A BTA authorization holder will be able to construct facilities to provide wireless cable service over any usable MDS channels within the BTA, and will have preferred rights to the available ITFS frequencies and ITFS lease agreements within the BTA. A channel is usable if the proposed station design is in compliance with the Commission's interference standards.

3. Under the new rules, the signals of a BTA authorization holder cannot interfere with those of any other BTA authorization holder. Recognizing, however, that BTA lines do not always track desired service areas, the rules permit BTA authorization holders to negotiate interference protection rights. In addition, the rules we adopt require BTA authorization holders to honor the protected service areas of incumbent MDS operators within their BTAs. In a companion order, also adopted today, the Commission expanded the protected service areas of existing MDS stations.⁵ These various licensees and applicants that are authorized or proposed on or before June 15, 1995, including those stations that are subsequently modified, renewed or reinstated, are referred to throughout this *Report and Order* as "authorized or previously proposed facilities" or "incumbents." In order to facilitate the development of successful wireless cable systems, the rules permit BTA authorization holders to assign or transfer their entire BTAs, or partitioned portions of it, to incumbents or other parties. (Unserved areas may be included as

² Unless otherwise indicated, "MDS" includes single channel Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) applications and authorizations collectively.

³ The Commission imposed a freeze on the filing of applications for new MDS stations in *Notice of Proposed Rulemaking* in PR Docket No. 92-80, 7 FCC Rcd 3266 (1992).

⁴ Rand McNally defined 487 BTAs in the *1992 Commercial Atlas & Marketing Guide*. Since Rand McNally did not include a few areas, we will add them to the list as BTA-like geographic areas, bringing the total to 493 authorizations to be auctioned. See *infra* at ¶ 37.

⁵ *Second Order on Reconsideration* in Gen. Docket Nos. 90-54 and 80-113, FCC 95-231 (released June 21, 1995) (*Second Order on Reconsideration*).

long as the assignment or transfer takes place within the five-year build-out period that the rules impose.) Because the BTA authorization holder may be an incumbent, the rules permit the aggregation of existing and new MDS and ITFS channels within a BTA.

4. The *Report and Order* also adopts a variety of measures to streamline the application and implementation processes. It authorizes, for example, the voluntary use of electronic filing for new MDS applications, as well as electronic fee payments. It institutes computerized interference studies utilizing new data elements to be included in a revised MDS application form. It also makes clear that interference disputes are to be resolved, in the first instance, through private negotiations, with the Commission to serve only as a last resort.

5. We understand that the wireless cable industry has made tremendous progress toward the transition to digital transmission.⁶ The rules we adopt today will facilitate that transition.

II. BACKGROUND

6. The origin of MDS dates back to 1970, when the Commission removed a limitation on the authorized bandwidth for licensees utilizing the 2150-2160 megahertz (MHz) frequency band.⁷ This action led to numerous applications which proposed to use this spectrum for the distribution of television programming from a central location to subscribers at many points. The Commission subsequently determined that the point-to-point service rules were not appropriate for a service that had become a point-to-multipoint service and in 1974, adopted rules to establish the Multipoint Distribution Service.⁸ These rules provided for two MDS channels, each consisting of 6 MHz, in the 50 largest metropolitan areas. In the rest of the country, though one 6 MHz channel is available, the second channel bandwidth is 4 MHz and it cannot be used to transmit a standard television signal, which requires 6 MHz of spectrum. In 1983, to satisfy a growing demand for the delivery of video entertainment programming to subscribers and to provide competition to wired cable systems, the Commission reallocated eight of the then twenty-eight ITFS channels for MDS use, and authorized ITFS licensees to lease the excess capacity on their systems to wireless cable operators.⁹ That action created wireless cable as a multichannel video

⁶ See, e.g., The Wireless Cable Association International, Selected Papers from the First Annual Wireless Cable Technical Symposium (February 4-6, 1995).

⁷ *Memorandum Opinion and Order, In the Matter of Part 21, Section 21.703(g) and (h) of the Commission's Rules*, 47 FCC 2d 957 (1970).

⁸ *Report and Order, Amendment of Parts 1, 2, 21 and 43 of the Commission's Rules to Provide for Licensing and Regulation of Common Carrier Radio Stations in the Multipoint Distribution Service*, 45 FCC 2d 616 (1974), *recon. denied*, 57 FCC 2d 301 (1975).

⁹ *Report and Order* in Gen. Docket No. 80-112 and CC Docket No. 80-116, 94 FCC 2d 1203 (1983). Therein, the Commission also grandfathered interference protection to existing ITFS

distribution medium, and in 1991, the Commission made more channels available for wireless cable services.¹⁰ Today, there are a maximum of thirty-three microwave channels used for wireless cable in each market. These include thirteen MDS channels (Channels 1, 2 or 2A, E1-E4, F1-F4 and H1-H3) and the excess capacity on up to twenty ITFS channels (Channels A1-A4, B1-B4, C1-C4, D1-D4 and G1-G4).¹¹

7. Wireless cable is now similar to wired cable television in the type of programming it provides, but differs from cable in how the programming is transmitted to subscribers. Generally, a wireless cable system may be described as a microwave station transmitting on a combination of MDS and ITFS channels to numerous receivers with antennas, such as single family residences, apartment complexes, hotels, educational institutions, business entities and governmental offices. The range of the transmission depends upon the transmitter power, the type of receiving antenna and the existence of a line-of-sight path between the transmitter or signal booster and the receiving antenna.

8. Over the past few years, the wireless cable industry has experienced substantial growth and has emerged as an effective competitor to wired cable in many locations.¹² This rapid growth is due, in part, to program access provisions and changes in other regulations that have increased access to financing. According to the Wireless Cable Association International, Inc. (Association), "[t]he rapid growth of the wireless cable industry has been fueled by recent debt

applicants, permittees or licensees on these eight E and F channels, resulting in twenty-eight ITFS channels in some locales.

¹⁰ The Commission reallocated the H group channels from the Operational Fixed Service to MDS and made MDS operators eligible for authorization on vacant ITFS channels with specified restrictions. *Second Report and Order* in Gen. Docket No. 90-54, 6 FCC Rcd 6792, 6793-94, 6801-06 (1991), *recon. denied*, 7 FCC Rcd 5648 (1992). Last year, the Commission consolidated processing of MDS and ITFS applications into one organization. *Amendment of Parts 0 and 1 of the Communication's Rules to Reflect a Reorganization of Multipoint and Multichannel Multipoint Distribution Services*, 9 FCC Rcd 3661 (1994).

¹¹ MDS channel 2A is only 4 MHz wide and lacks sufficient bandwidth to transmit a standard television signal. Grandfathered ITFS stations on the eight E and F channels also lease excess capacity to wireless cable operators.

¹² See *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 9 FCC Rcd 7442, 7482-88 (1994). The Commission is required to file such reports pursuant to the Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, § 628(g), 106 Stat. 1460 (amending the Communications Act of 1934), codified at 47 U.S.C. § 548(g). The Commission recently adopted a *Notice of Inquiry* to obtain information needed to prepare the annual assessment that will be released in 1995, FCC 95-186 (released May 24, 1995), 60 Fed. Reg. 29,533 (June 5, 1995).

and equity financing that almost certainly would not have been made but for investor confidence engendered by the FCC's nurturing of wireless cable."¹³ Moreover, the growth of MDS has led to the continued development of ITFS. Indeed, wireless cable operators significantly serve the public interest by supporting and funding approximately 95 percent of all new ITFS applicants. This includes many small, rural school systems who now have, or will soon have, access to quality educational materials, which historically have been available only to more affluent school systems. In addition to its contributions to ITFS, wireless cable operators offer other public interest benefits which include expanding consumer choice, stimulating economic growth and providing competition to other multichannel video programming distributors, resulting in better service to the public at lower prices. Today, the Association estimates that there are 170 wireless cable systems in operation which serve approximately 700,000 homes, and experts predict that wireless cable will at least double its current subscriber base by the end of 1995. Comments of Association at 6-7.

9. MDS is a heavily encumbered service. Most of the thirteen MDS channels have already been authorized in the largest metropolitan areas, especially for locations in the eastern half of the country. Thus far, MDS has developed almost entirely in large and medium-sized cities, though MDS systems also serve many smaller communities in the western states. In addition to the approximately 170 operating wireless cable systems, many conditional licenses have been issued to entities that, presumably, are in various stages of constructing their systems. Finally, the MDS landscape includes MDS systems proposed in applications now being processed at the Commission.

10. On December 1, 1994, the Commission released a *Notice of Proposed Rulemaking* in this proceeding which solicited comment on proposals that would modify our MDS filing procedures and use competitive bidding to select from among mutually exclusive applicants. *Notice of Proposed Rulemaking* in MM Docket No. 94-131 and PP Docket No. 93-253, 9 FCC Rcd 7665 (1994) (*Notice*). In the *Notice*, the Commission acknowledged that wireless cable operators must have access to as many available channels as possible in order to meet subscriber demand and compete with wired cable television systems in the same area. We further observed in the *Notice* that the expansion of the wireless cable industry has been stifled by an MDS licensing process that has been bogged down for a number of years by thousands of applications and legal protests. The majority of the applications were believed to be speculative and many of the protests were believed to be frivolous. *Notice* at 7668-69. In 1990, the Commission adopted a one-day cut-off period, which is referred to as the "same calendar day rule," in an attempt to limit the opportunity for speculators to simply copy applications that were previously filed and

¹³ Comments of Association at 6. The Association members include the operators of virtually all wireless cable systems in the United States, as well as licensees in MDS and ITFS, equipment manufacturers and program suppliers.

resubmit them under different names.¹⁴ Nevertheless, speculators continued to file a large number of applications up to the time the Commission imposed the freeze on filing applications for new MDS stations in 1992.¹⁵ The backlog has been significantly reduced since the freeze was imposed, and the staff is continuing its efforts to eliminate the remaining backlog of pending applications, process other applications filed after the freeze, such as modifications, and update the MDS inventory.¹⁶ The proposals set forth for consideration in this proceeding were designed to avoid the future accumulation of backlogged applications and legal protests that have delayed the deployment of MDS stations in the past.

11. In the *Notice*, we proposed to modify our application filing procedures and use competitive bidding to select from among mutually exclusive applicants. We also proposed to implement a mandatory electronic filing system for new MDS and ITFS applications.¹⁷ As a complement to the electronic procedures, the *Notice* proposed that the Commission utilize computerized interference studies, revise the current application forms, permit the electronic filing of fee payments and establish a current data base with on-line viewing access to the public. Finally, the *Notice* solicited any other proposals that would allow the Commission to process applications for new MDS stations more efficiently. We received twenty-two comments and nineteen replies from commenters who include MDS licensees, wireless cable operators, attorneys, consulting engineers, educational institutions and other entities who are interested in

¹⁴ 47 C.F.R. § 21.914. *Report and Order* in Gen. Docket Nos. 90-54 and 80-113, 5 FCC Rcd 6410, 6424 (1990); *Order on Reconsideration*, 6 FCC Rcd 6764 (1991), *petition for review filed, United States Independent Microwave Television Association v. FCC and United States of America*, No. 91-1637 (D.C. Cir. filed Dec. 20, 1991) (held in abeyance by Court Order of February 21, 1992, pending action on second set of reconsideration petitions); *Second Order on Reconsideration*, FCC 95-231 (released June 21, 1995).

¹⁵ *Supra* at n.3. In January of 1993, the Commission adopted a number of rule changes designed to deter abuse by speculators. *Report and Order* in PR Docket No. 92-80, 8 FCC Rcd 1444 (1993).

¹⁶ *See, e.g., 101 Applications for Authority to Construct and Operate Multipoint Distribution Service Stations*, 9 FCC Rcd 7886 (1994); *4,330 Applications for Authority to Construct and Operate Multipoint Distribution Service Stations at 62 Transmitter Sites*, 10 FCC Rcd 1335 (1994), *joint notice of appeal filed, A/B Financial, Inc., et al. v. FCC*, 95-1027 (D.C. Cir. filed Jan. 9, 1995). In several orders adopted today, we uphold the return of an additional 731 MDS applications as unacceptable for filing.

¹⁷ The only aspect of the *Notice* which applied to ITFS was the electronic filing proposal. In a separate proceeding, the Commission recently adopted improvements to the ITFS licensing process, including a window filing procedure. *Report and Order, Amendment of Part 74 of the Commission's Rules With Regard to the Instructional Television Fixed Service*, MM Docket No. 93-24, 10 FCC Rcd 2907 (1995).

MDS.¹⁸ While the commenters generally support the Commission's efforts to streamline its processing procedures and expedite development of wireless cable services, they have varying proposals on how to accomplish these goals.

III. DISCUSSION

A. FILING PROCEDURES AND SERVICE RULES

12. *Proposals.* In the *Notice*, the Commission proposed that applicants file short-form applications for established geographic service areas to identify mutually exclusive applicants for competitive bidding purposes and that the successful bidders file long-form applications. *Notice* at 7669-71. The *Notice* suggested the use of predetermined geographic areas, such as Metropolitan Statistical Areas (MSA) and Rural Service Areas (RSA) or Areas of Dominant Influence (ADI).¹⁹ This proposal envisioned that we would release a public notice announcing auctions by geographic area, specifying the filing period for short-form applications (FCC Form 175)²⁰ and the applicable bidding procedures. Mutually exclusive applicants would bid for all usable MDS channels in that area as a package and the auction winner would be permitted to file long-form applications for conditional licenses to operate stations anywhere throughout the service area provided the specific engineering design of their MDS stations meets the Commission's interference protection standards with respect to all authorized or previously proposed MDS and ITFS facilities. Long-form applications accepted for filing would be proposed for grant by a Commission public notice, announcing that the applications are accepted for filing and opening a thirty-day period for filing petitions to deny. *See* 47 U.S.C. § 309(b); 47 C.F.R. § 21.30. The *Notice* observed that these filing procedures would enable operators to

¹⁸ A list of the parties filing comments and replies is provided in Appendix A. The list includes parties who, in response to a July 28, 1993 *Public Notice*, filed comments on ways the Commission could expedite the processing of MDS applications. We have considered those views and incorporated those materials in the public record of this proceeding.

¹⁹ MSAs and RSAs are standard geographic areas used by the Commission for administrative convenience in licensing cellular radio systems. The Commission has also used MSAs since 1983 for making mutually exclusive determinations for MDS applications filed for the E or F channels under 47 C.F.R. § 21.901(d)(5). ADIs are standard geographic areas that were developed by Arbitron Ratings Company. Each county in the United States is placed within one of 209 ADIs, the lowest numbered ADI having the highest population.

²⁰ FCC Form 175 contains the applicant's name, the markets in which the applicant wishes to bid, the persons authorized to make or withdraw a bid, whether the applicant is qualified as a designated entity under 47 C.F.R. § 1.2110, certifications that the applicant is legally, technically, financially and otherwise qualified, and identification of all parties involved in agreements, or certification that no agreements exist, relating to the authorizations being auctioned or the bidding process.

amass MDS channels, would avoid the lengthy delay associated with licensing stations site-by-site and therefore would allow operators to enhance their services more rapidly. The *Notice* asked commenters to determine which type of geographic areas would be most suitable for MDS and to address the definition of protected service area. In particular, we requested comment on whether the current definition of an MDS station's protected service area would be appropriate,²¹ or whether the boundary of the geographic area designed for auction purposes should become the protected service area. We also asked commenters to discuss the interference standards for service to the areas adjacent to the boundaries between geographic areas. Although the *Notice* identified this approach of licensing MDS channels as the preferred approach, we also invited comment on alternative licensing procedures.

13. The *Notice* suggested an alternative approach that would limit applications to predetermined sites where there are vacant E, F or H channels. *Notice* at 7671-72. Under this approach, the Commission would identify such sites based upon the location of an already authorized E, F or H channel. The Commission would issue multiple public notices specifying the filing period and applicants would file a short-form application to identify mutually exclusive situations for purposes of competitive bidding. The auction winner would be required to file a long-form application containing a complete engineering proposal and specifying a compatible station design with the Commission's interference protection standards to all previously proposed or authorized MDS and ITFS facilities.

14. Under another alternative presented in the *Notice*, the Commission would periodically open national filing windows, with no geographic restrictions on filing for available MDS channels. *Notice* at 7672-73. Pursuant to this proposal, we would release a public notice announcing the filing window for available channels. This proposal would initially require a long-form application, containing the applicant's complete technical proposal, to determine mutual exclusivity before competitive bidding procedures are implemented. The *Notice* pointed out that this approach would likely result in a larger number of mutually exclusive applications and increase the possibility of "daisy-chains" (interlinking application proposals at different locations), which would require a more complicated and time consuming competitive bidding process, including subsequent rounds of auctions to resolve all mutual exclusivities in a daisy-chain. We invited commenters favoring a national window approach to recommend ways to resolve the daisy-chains that might arise under this proposal.

15. As an option to the national filing window approach, the *Notice* discussed limiting eligibility to file in the first window to existing licensees and system operators who, at the time the application is filed, are operating with a certain minimum number of channels. *Notice* at 7673. In many situations, the acquisition of a small number of additional channels may be essential for launching a whole new wireless cable system in a given area. This approach would allow existing

²¹ 47 C.F.R. § 21.902. In another order, also adopted today, the Commission amends 47 C.F.R. § 21.902, to expand the protected service area for authorized or previously proposed MDS facilities. *Second Order on Reconsideration* at ¶¶ 2-31.

wireless cable operators to accumulate the critical mass of channels necessary to operate competitive wireless cable systems. We asked commenters favoring this option to suggest eligibility requirements to govern the filing of applications in this first window.

16. *Comments.* There is no consensus in the comments as to which filing approach we should adopt for new MDS stations. The majority of the commenting parties express support for the national filing window approach. Of these, most favor a first window limited to existing licensees and operators, and some commenters advocate such a preference regardless of the filing approach. A few of the commenters support the *Notice's* preferred approach of filing applications for predetermined geographic areas; however, they disagree as to the appropriate type and size of service areas. The commenters who discussed the approach that would restrict applications to Commission-identified sites where there are vacant E, F or H channels available generally oppose that concept. Others suggest additional options, such as an MDS allotment plan, or variations of the alternatives proposed in the *Notice*, such as a national filing window coupled with short-form applications or a first window limited to existing operators with subsequent windows for remaining MDS channels licensed by MSAs and RSAs. Several parties provided additional suggestions for filing procedures, not discussed in the *Notice*.

17. Crowell & Moring, Pacific Telesis Enhanced Services (PacTel), the Rural Wireless Cable Coalition (Rural Wireless) and CAI Wireless Systems, Inc. (CAI Wireless) favor the *Notice's* preferred filing approach where the boundary of the geographic area becomes the protected service area.²² They agree with the *Notice* that an approach based upon predetermined geographic areas provides the most efficient system for disseminating MDS licenses. In particular, Crowell & Moring prefers this approach over site-by-site licensing because geographic licensing is easier to administer, it achieves the most efficient use of the spectrum, it eliminates daisy-chains (interlinking application proposals at different locations), and it avoids burdensome litigation. Crowell & Moring believes that failure to adopt a geographic area licensing approach would leave MDS at a serious competitive disadvantage compared with Local Multipoint Distribution Service (LMDS) which proposes to license by BTAs and Interactive Video and Data Service (IVDS) which licenses by MSAs and RSAs. PacTel maintains that the licenses would be awarded to those who value them most, and the auction winner would be more likely to be a viable competitor to wired cable. Crowell & Moring and PacTel prefer using ADIs as the basis for MDS service areas because ADIs are of sufficient size to allow a large subscriber base, improving the value of advertising and allowing more effective competition with wired cable, and because there are more usable channels than available in MSAs and RSAs, ADI auctions would attract more bidders. Rural Wireless believes that MSAs would be attractive to larger companies and RSAs would be more affordable to small operators, such as rural telephone companies,

²² See Comments of Crowell & Moring at 2-10; PacTel at 2-3; CAI Wireless at 4-6; Rural Wireless at 9-10; Reply Comments of Crowell & Moring at 2-12; CAI Wireless at 8-12; Rural Wireless at 6-9. Rural Wireless includes Central Texas Wireless TV, Inc., Adams Telecom, Inc., Leaco Rural Telephone Cooperative, Inc., Delhi Telephone Company and Valley Telephone Cooperative, Inc.

encouraging participation by a variety of service providers. Rural Wireless recommends that the auction winner have the option to partition unused portions of the service area. Partitioning, according to Rural Wireless, would give rural telephone companies a meaningful opportunity to acquire MDS licenses, thereby introducing or improving wireless cable to rural areas, many of which have no other source of multichannel video programming. CAI Wireless supports using MSAs and RSAs for licensing only after a first window for existing operators and recommends that the protected service areas be made coterminous with the boundaries of the MSAs and RSAs only after digital compression technologies are introduced.²³ Finally, Crowell & Moring requests that the Commission modify its rules to allow the licensee of a geographic area to apply for unused ITFS frequencies anywhere within the protected service area.

18. Numerous commenters oppose geographic licensing where the protected service areas of the MDS stations are coterminous with the boundaries of the geographic areas. Essentially, they present five interrelated arguments in opposition to this approach. First, many commenters assert that such an approach places limits on an operator's flexibility to design a system. For example, American Telecasting, Inc. (American Telecasting) explains that wireless cable operators select their locations based on where they already have systems, the absence of cable service, the presence of poor cable service or other business reasons inconsistent with political boundaries. Comments of American Telecasting at 17. Second, a few commenters assert that the MDS analog technology, unlike cellular technology, does not permit a wireless cable system to provide service throughout a designated area without significant leakage into adjacent service areas. According to the Association, if a system is designed to maximize coverage of a given geographic area, it will leak significant signal levels into a neighboring area, and if a system reduces its signal to prevent leakage, the operator loses its flexibility to maximize population coverage. Comments of Association at 39-40. The Association points out that while it may be possible to design a wireless cable system without leakage into adjacent areas after conversion to digital technology, the most optimistic estimate for availability of digital compression equipment in quantity is the first quarter of 1996. Comments of Association at 3-4. Third, several commenters emphasize that the sizes of some areas are inappropriate for the MDS service and may cause delays in the introduction of service in many markets. For example, American Telecasting asserts that area boundaries have nothing to do with wireless cable service areas, that ADIs tend to be much larger than wireless cable service areas, that MSAs can be larger or smaller than wireless cable service areas and that BTAs are an equally poor methodology. Comments of American Telecasting at 18. The Richard L. Vega Group (Vega) indicates that the irregular market boundaries of MSAs, RSAs, BTAs, MTAs and ADIs are unfit for MDS. Comments of Vega at 2-4. The Association asserts that if the Commission utilizes large geographic areas, such as ADIs, it must afford an

²³ Digital compression is a technology that employs various techniques to reduce the number of bits required to transmit a program. For a given channel bandwidth and digital transmission rate, an operator may, depending on circumstances, transmit a single uncompressed program or multiple compressed programs. For example, a six-to-one compression ratio permits the operator to offer six program channels over one 6 MHz channel that would accommodate only one uncompressed program.

opportunity for entities to enter into bidding consortia and partition the ADI among themselves. The Association further asserts that if channels are auctioned by geographic areas, the use of simultaneous multiple round bidding would allow applicants to bid for adjacent markets and design systems to maximize population coverage beyond boundaries. Comments of Association at 34-37. Fourth, several commenters believe that area-based licensing is inconsistent with the licensing of ITFS facilities.²⁴ Specifically, some contend that the protected service area for MDS and ITFS should be coterminous to ensure adequate protection for all of a wireless cable operator's channels. Other parties argue that a licensing system based on geographic areas would result in newly authorized systems that are different and most likely incompatible with previously authorized MDS facilities, making it difficult for incumbent operators to add channels to their systems. The Association is concerned about the level of protection incumbent licensees will have and their flexibility to upgrade their facilities in the future. Finally, many commenters believe that a licensing system based on geographic areas will attract speculative applications because of the simplicity of the short-form and because it is easier for unscrupulous marketers to sell an already defined market area. For example, Hardin and Associates, Inc. (Hardin) is concerned that applicants may be deceived into bidding on an area that appears to be profitable, only to discover after the auction that the area is worthless because of the harmful interference from existing stations. Comments of Hardin at 5.

19. Two commenters support the approach which would require the Commission to identify sites based upon the location of an already authorized E, F or H channel, but only as a second option. *See* Comments of Hardin at 7; Association at 45-47. For example, Hardin contends that this approach, when compared to the geographic licensing approach, is more likely to result in constructed stations that coexist with surrounding stations in an environment free of interference. Hardin and the Association, however, along with the many opponents of this approach, identify several problems with such an approach.²⁵ They contend that it limits the operator's flexibility to design a system, it falsely assumes that the previously authorized E, F and H channels are going to be constructed where previously proposed, and it would require the Commission to make subjective choices between sites.

20. The commenting parties who support adoption of the national filing window approach

²⁴ *See* Comments of Association at 41; Caritas Telecommunications (Caritas) at 2; Reply Comments of Humanities Instructional Television Educational Center, Inc. (Humanities) at 1; University of Arizona at 1; People's Choice TV Corp. at 2; Region IV Education Service Center (Region IV) at 1; University of Maryland at 1; American Telecasting at 20; National ITFS Association (National ITFS) at 3-4.

²⁵ *Id.*; *See also* Comments of CAI Wireless at 7-8; Dalager Engineering Company (Dalager) at 2; Marshall Communications, Inc. (Marshall) at 5; Vega at 6.

assert similar arguments.²⁶ The Association, for example, states that the national filing window approach is best because it allows licensees to continue to self-select their protected service area through station location and design, and implementation of an electronic filing system will eliminate much of the delay associated with site-specific licensing. Marshall believes that a national window would result in better coverage for populated areas while minimizing harmful interference, as topography and demographics are considered when choosing a station location. Heartland believes that implementation of this approach would be much less disruptive to the wireless cable industry, stating that although it is a slower process, a whole new complicated licensing process would take longer. Hardin believes that a national filing window would generate applicants that are genuinely interested because a detailed engineering analysis is required prior to submitting a long-form application for competitive bidding. Dalager and ACS Enterprises, *et al.*, suggest that daisy-chains be resolved by multi-part auctions, determining the auction winner and dismissing any mutually exclusive applications and repeating the process with the remaining applicants. Opponents contend that the national window site-by-site licensing approach is administratively complex, increases the possibility of daisy-chains, encourages litigation and thus, would delay the development of new and improved wireless cable service. For example, Rural Wireless states that because this approach has no geographic restrictions, the Commission would be forced to expend an inordinate amount of resources to resolve daisy-chains and determine which mutually exclusive applicants should be placed in the same auction.

21. Of the commenters advocating adoption of the national filing window, a majority favor first window eligibility limited to existing MDS licensees and system operators, with several variations on the specific eligibility requirements. For example, the Association believes that the eligibility restriction should be based upon the number of channels necessary to succeed. Comments of Association at 25-33. Of those parties supporting the geographic licensing approach, three favor a similar preference as part of their licensing scheme. Most of the parties advocating first window eligibility are either MDS licensees or wireless cable operators. The Association and CAI Wireless believe that this approach will permit the Commission to devote scarce processing resources to those in the best position to immediately introduce competition into the marketplace. CAI Wireless emphasizes that limiting eligibility will deter speculative, fraudulent and anticompetitive applicants. Heartland, Vermont Wireless and Multi-Micro assert

²⁶ *See, e.g.*, Comments of American Telecasting at 12-17; Dalager at 2; Hardin at 7-9; Heartland Wireless Communications, Inc. (Heartland) at 5-6; Marshall at 5-6; Mitchell Communications Corp. (Mitchell) at 2; National ITFS at 3-4; Vega at 7-9; Sioux Valley Rural Television, Inc. at 1-2; United States Wireless Cable, Inc. (U.S. Wireless) at 4; Vermont Wireless Cooperative (Vermont Wireless) at 1; Association at 41-44; ACS Enterprises, Inc., Baton Rouge Wireless Cable Television, CableMaxx, Inc., Multimedia Development Corp., Rapid Choice TV, Inc., Reading Wireless Cable General Partnership, Shreveport Wireless Cable Television Partnership, Superchannels of Las Vegas, Inc., Wireless Holdings, Inc. and XYZ Microwave Systems, Inc. (ACS Enterprises, *et al.*) at 5-13; Reply Comments of Association at 19-23; Cross Country Wireless, Inc. (Cross Country) at 3; Multi-Micro, Inc. (Multi-Micro) at 2; Applied Video Technologies, Inc. at 2-3.

that existing operators have made substantial investments in the wireless cable industry, they built on the expectation of eventually acquiring additional channels and they deserve an opportunity to complete their systems to effectively compete with wired cable. American Telecasting argues that this type of preference would satisfy the Commission's goal to allow operators to enhance their service more rapidly and thus, accelerate competition to cable. In opposition, Dalager argues that such a preference is unfair to ineligible individuals who have waited patiently for the Commission to lift the freeze, and it is unnecessary because the channels in a specific area are worth more to the local operator than anyone else and the marketplace will place a value on them at auction. PacTel agrees that licenses should be awarded to those who value them most and giving licensees and operators a preference creates the potential for unjust enrichment due to the relatively small number of potential bidders. Vega argues that an initial window for incumbents discriminates against new entrants to the MDS industry.

22. A few of the commenting parties express their support for different filing proposals that were not raised in the *Notice*. du Treil, Lundin & Rackley, Inc. (du Treil) proposes that the Commission develop a comprehensive allotment plan for specific communities across the entire country, with a 50-mile separation and competitive bidding by market. Comments of du Treil at 1-4. Vega and ACS Enterprises, *et al.* propose a national filing window approach with short-form applications. Vega's proposal would use a 50-mile separation to identify mutually exclusive applications for competitive bidding purposes and would only require a certification on the short-form application indicating that the necessary interference studies were conducted and ACS Enterprises, *et al.*, would require technical information on its recommended short-form application, including the specific channels, proposed site coordinates, antenna height, polarization and power. Comments of Vega at 7-9; ACS Enterprises, *et al.* at 12-13. CAI Wireless proposes a first window limited to existing operators followed by windows for the remaining MDS channels licensed by MSA and RSA, permitting auction winners to file long-form applications to operate facilities anywhere in the service area and mutually exclusive applicants in the boundary areas that are unable to negotiate interference rights would participate in a second auction restricted to the channels in the boundary areas. Comments of CAI Wireless at 2-6.

23. Several commenting parties set forth other proposals to enhance processing efficiencies or otherwise improve service to the public. For instance, the definition for protected service area is an issue of vital importance to the industry and several of the commenters indicate that the current interference protection rule which protects an area within 15 miles of a transmitter site or more generally, 710 square miles, fails to adequately protect existing service from MDS stations. *See* 47 C.F.R. § 21.902(d).²⁷ Some commenters also believe that an expanded protected

²⁷ This issue is being addressed in a separate order adopted by the Commission today. *Second Order on Reconsideration*, at ¶¶ 2-31. A number of commenters request that the Commission reduce the 120-day public notice period afforded ITFS licensees and permittees under 47 C.F.R. § 21.902(i)(6), to file petitions to deny MDS applications for new and modified stations. Hardin and Marshall suggest the Commission adopt a rule requiring the use of frequency offset

service area would deter speculators. They specifically recommend adoption of an approach based on the service capabilities of each station, as proposed by the Association in its Petition for Partial Reconsideration in Gen. Docket No. 90-54 and reiterated in its Comments in this proceeding.²⁸ Other parties argue that the MDS and ITFS protected areas should be identical and a few others contend that there should be no change in the rule. U.S. Wireless believes that automatic forfeiture of a license under 47 C.F.R. § 21.44 should be eliminated because it subjects MDS conditional licensees and lessees to undue hardship. Reply Comments of U.S. Wireless at 3-4. Several parties urge the Commission to eliminate the application backlog and improve the accuracy of the data base before accepting any new applications, and others recommend additional safeguards against abuse of the Commission's processes including ways to deter speculators and prevent the warehousing of channels, such as the proposal by U.S. Wireless to adopt a finder's preference for reporting unconstructed channels.

24. **Resolution:** After careful consideration of the merits of the various proposals we raised in the *Notice*, we continue to prefer a filing approach where applicants file short-form applications and auction winners file long-form applications. We have decided that BTAs are the most appropriate geographic area for MDS. The boundaries of each geographic area, with the exceptions of channels obtained through leases with ITFS licensees, will become the protected service area for the auction winner. The auction winners will be issued authorizations for specific geographic areas and will be permitted to operate one or more MDS transmitting stations and signal boosters anywhere inside the service area, provided the specific engineering design meets the Commission's interference protection standards to all authorized or previously proposed MDS and ITFS facilities, and complies with the limits we establish for signal strength along the perimeter of the geographic area. *See infra* at ¶¶ 50-53. Following the auction, there would be a five year build-out period in which an authorization holder can expand service or initiate new service within their area without competing applications. The authorization holder will also be permitted to partition its area along established geopolitical boundaries and enter into contracts with eligible parties, allowing such parties to file long-form applications for usable MDS channels within that partitioned area. *See infra* at ¶¶ 46-47. This will permit broad participation from entities of all sizes. This framework provides the most efficient system of disseminating MDS licenses because service areas are easily identified and authorizations are promptly granted with minimal administrative or judicial delays. This approach will also provide operators sufficient flexibility to design systems that satisfy consumer demand.

25. We emphasize that there is no perfect or simple filing approach to adopt at this time

transmitters to reduce cochannel interference. These issues are also addressed in the *Second Order on Reconsideration*, at ¶¶ 32-53.

²⁸ *Supra* at n.5; Comments of Association at 20-25. *See, e.g.*, Comments of American Telecasting at 23; Reply Comments of CAI Wireless at 2; Hardin at 2-3; Cross Country; Humanities; Multi-Micro; University of Arizona; Region IV; University of Maryland.

for new MDS authorizations given the history of the service, the characteristics of the technologies involved, the implementation of competitive bidding procedures, and our goal to rapidly enhance wireless cable systems as viable competitors in the multichannel video marketplace. We also reiterate that MDS is a heavily encumbered service. Although conditional licenses in some markets for one or more channels have been forfeited for failure to comply with express conditions or to timely construct, in a majority of the markets only small portions are unserved and few channels are available. Of the thirteen MDS channels, it is possible that no channel remains available for prospective bidders for as many as 59 of the cities of the top 100 ranked television markets. There are possibly two or less channels available in as many as 90 percent of these market cities. Moreover, the fixed 35-mile protected service areas of MDS incumbents, adopted today in a separate proceeding, will occupy substantial portions of most BTAs and typically cross BTA boundaries, especially in the eastern half of the country where BTAs are relatively geographically smaller. By enabling incumbents to continue providing interference-free service to subscribers within the expanded 35-mile areas, it is likely that in a substantial number of BTAs, it may be difficult, if not impossible, for an auction winner to locate a station anywhere in the BTA to provide both interference-free service and the necessary interference protection to protected areas of incumbents; unless either the auction winner is the incumbent, negotiates an interference agreement with the incumbent or would acquire the authorization of the incumbent.²⁹ We emphasize that prospective bidders must carefully ascertain the extent of incumbent operations and authorized but unconstructed facilities in any BTAs prior to bidding. Further, where there remains outstanding at the time of auction a pending application, petition for reconsideration, reinstatement request or application for review affecting any BTA, winning bidders would acquire any authorization conditioned upon the outcome of Commission actions on such applications or pleadings. Prospective bidders must consider the total impact of incumbents in their valuation of the auction areas for competitive bidding purposes.

26. With regard to the definition of the service area to be authorized for MDS, we conclude that issuing authorizations by Basic Trading Areas (BTA) reflects the best balance of competing considerations. We considered several service area options including Metropolitan Statistical Areas (MSA) and Rural Service Areas (RSA),³⁰ the television Areas of Dominant Influence (ADI) and the analytically similar Designated Market Areas (DMA),³¹ Basic Trading

²⁹ In assessing MDS channel availability, we assumed that each authorized or previously proposed MDS station has a protected service area of 35 miles, *i.e.*, the expanded service area adopted today in a related order. *Second Order on Reconsideration*.

³⁰ MSAs and RSAs are used by the Commission in licensing cellular radio systems. All of the 306 MSAs and 428 RSAs and the counties they comprise are listed in *Public Notice*, Report No. CL-92-40, "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," 7 FCC Rcd 742 (1992). *See also* 47 C.F.R. § 22.909.

³¹ DMAs are standard geographic areas developed by A.C. Nielsen Company in which each county in the continental United States is placed within one of the 211 DMAs, the lowest

Areas (BTA) and a combination of service areas that vary in size. The record reflects that because many MSAs are much smaller than actual service areas existing today, wireless cable stations licensed to different entities in adjacent MSAs would have great difficulty providing service to their MSA without causing harmful interference to systems in adjacent areas.³² In some cases, operators who designed their systems to maximize population, are serving subscribers located beyond the MSA in which the transmission facilities are located.³³ Furthermore, the record indicates that the use of MSAs and RSAs would result in unnecessary fragmentation of natural markets and in order to protect the boundaries of adjacent MSAs and RSAs, in many cases, stations would have to operate at extremely low levels of power. While simultaneous multiple round bidding would permit the consolidation of interdependent MSAs and RSAs, and licensees could acquire additional markets after auctions through the assignment and transfer process, we believe that these options may result in unproductive regulatory and transaction costs for the Commission and applicants. We believe that the use of larger service areas would alleviate these problems and would reduce the need for and cost of interference coordination between neighboring licensees.

27. ADIs and DMAs, on the other hand, tend to be much larger than the area in which reliable MDS service is available using today's technology. American Telecasting indicates that ADIs tend to be over seven times the size of actual wireless cable protected service areas (of 710 square miles) and therefore concludes that ADIs are the least appropriate service area for MDS. It explains that ADIs are designed for television advertising measurement purposes and unlike wireless cable, the signal of television stations and hence the size of ADIs are attributed to cable carriage of television signals. Comments of American Telecasting at 18. Furthermore, the cost of acquiring an ADI authorization through competitive bidding, building systems and marketing services in the larger ADIs may unnecessarily restrict entry to a small number of applicants. BTAs offer a compromise in size that may best approximate MDS service areas. Although varying in geographic shape and size, BTAs are bigger than MSAs generally since they often include the MSA and surrounding counties, thus mitigating harmful interference among adjacent areas. BTAs offer sufficiently large service areas to allow applicants flexibility in designing a system to maximize population coverage and take advantage of economies of scale necessary to support a successful operation. Yet BTAs are generally smaller than ADIs, making the initial cost of acquiring the authorization through competitive bidding lower, and therefore providing greater opportunity for participation by small businesses, female and minority entrepreneurs and rural telephone companies. The use of BTAs combined with geographic partitioning will encourage further participation by a wide variety of applicants. *See* 47 U.S.C.

numbered DMA having the highest population.

³² *See, e.g.*, Comments of American Telecasting at 18; Marshall at 2-3; Vega at 2-4; Association at 35-37; ACS Enterprises, *et al.* at 6-9.

³³ For example, the Association described an existing wireless cable operator in Ohio who currently serves subscribers in three different MSAs. Comments of Association at 37.

§ 307(j)(4)(C). Finally, BTAs provide a manageable number of discrete filing areas for competitive bidding purposes.

28. We recognize that the majority of the commenting parties express support for the national filing window approach. We believe, however, that using national filing windows would most likely result in more of the very substantial processing and administrative delays that have long plagued the development of the wireless cable service. Given the history of the service, we believe such delays are inherent in site-specific licensing, which would require analysis of long-form applications containing the applicant's complete engineering proposal before the competitive bidding process begins. Since the national filing window approach would likely result in a larger number of mutually exclusive applications and daisy-chains, implementation would likely require significant Commission resources and a substantial amount of time to conduct the multi-part auctions (to resolve the daisy-chains) recommended by some commenters or otherwise complete the competitive bidding process. We acknowledge the concerns of some commenters that the licensing approach should afford MDS licensees flexibility to locate systems wherever necessary to maximize coverage. The record reflects that the success of the wireless cable industry thus far has been based upon negotiated agreements with neighboring system operators and strong partnerships with ITFS licensees. The filing system and procedures we adopt herein are expected to facilitate such negotiations and afford wireless cable operators the flexibility to improve existing systems, introduce new systems and implement digital technologies.

29. Indeed, the record indicates that geographic licensing may be the most efficient method to these ends in a digital environment, toward which the wireless cable industry is moving.³⁴ The nature of digital transmissions will allow more flexibility to tailor signal coverage to geographic boundaries using multiple transmitting facilities. We believe that our rules will facilitate the transition to digital transmissions. If modification of our rules become necessary, we will act promptly to ensure that our rules in no way impede the digital future.

30. In response to the concern about the protected service areas for MDS (BTAs) and ITFS being different, we must emphasize that the two services have differing purposes and authorization procedures. One is intended primarily to provide educational and cultural development to students enrolled in accredited schools and the authorization is issued to the best qualified applicant, while the other is commercial in nature and is subject to competitive bidding. Furthermore, unlike MDS stations, the protection afforded to ITFS operators is based upon receive sites and protected service area is defined in 47 C.F.R. § 74.903. Pursuant to this rule, the protected service area associated with the leasing of excess channel capacity will also expand to a circle, 35 miles in radius, centered about the transmitter site of the ITFS station. We note, however, that in a recent proceeding we adopted a 35-mile protection distance for ITFS receivers,

³⁴ See Comments of CAI Wireless at 5; Association at 3-4; Reply Comments of CAI Wireless at 11; Crowell & Moring at 8.

a protection distance that is compatible with many BTAs,³⁵ and with the 35-mile protected service area for MDS stations which are authorized or previously proposed that we have separately adopted today. *Second Order on Reconsideration*.

31. For the reasons stated above, we believe that licensing by geographic areas is the best approach for issuing MDS authorizations. We decide not to adopt the approach presented in the *Notice* limiting applications to predetermined sites identified by the Commission based upon the locations of already authorized E, F or H channels where there are usable channels. We agree with the commenters that this approach is inflexible. An approach in which the Commission identifies the specific site sacrifices the business judgment of the operators when they are in the best position to consider market forces. Further, where there is more than one site, the Commission would have to establish criteria for choosing among the available locations. In addition, where identified sites are unavailable to the highest bidders, the Commission would have to process modification applications, which would actually decrease overall processing efficiency and would delay service to the public.

32. We decline to adopt a preference for existing licensees and system operators because we believe that, rather than place restrictions on eligibility to participate based upon an applicant having access to a minimum number of channels, it is in the public interest to encourage participation from a wide variety of applicants. Indeed, a new entrant into the wireless cable industry may place a higher value on the spectrum than an incumbent licensee or system operator in a given area. While we recognize that in some areas, the existing licensee or operator may be in the best position to immediately introduce competition to wired cable, we further believe that a new entrant with sufficient resources will be able to accumulate a sufficient critical mass of channels to launch a system in a market through the competitive bidding process and through the assignment or transfer of previously authorized channels. Thus, market forces will lead to the accumulation of channels into one operating system.

33. We also decline to adopt the proposals set forth by du Treil, Vega, ACS Enterprises, *et al.* and CAI Wireless. The allotment scheme proposed by du Treil is inappropriate for MDS at this point in time because it is a heavily encumbered service. In addition, adoption of an allotment proposal would restrict engineering design flexibility. The proposals by Vega and ACS Enterprises, *et al.* to adopt the national filing window with short-form applications do not alleviate the delays caused by the likely large number of mutually exclusive applications forming daisy-chains. The request by U.S. Wireless to eliminate the automatic forfeiture rule is beyond the scope of this proceeding. A number of additional proposals were set forth by other commenting parties to otherwise improve the MDS filing process or prevent the warehousing of MDS channels, assuming a filing window approach was utilized. Essentially, the proposals are unnecessary in light of the modifications to our rules adopted in this proceeding and in the *Second Order on Reconsideration*.

³⁵ *Report and Order* in MM Docket No. 93-24, 10 FCC Rcd 2907, 2917.

1. Service Areas

34. We therefore will award MDS authorizations for entire BTA service areas under competitive bidding procedures. BTAs were designed by Rand McNally to represent the natural flow of commerce, comprising areas within which consumers have a community of interest. Like the other types of predetermined geographical areas, BTAs vary in size and shape. Typically, a BTA includes a population center(s) (city or large town) and the surrounding rural area. BTA boundaries are based on county lines because most statistical information relevant to marketing is published in terms of counties. The specific boundaries were drawn after a study of several factors, such as physiography, population distribution, economic activities, newspaper distribution and transportation facilities.³⁶

35. We note that Rand McNally & Company is the copyright owner of the Basic Trading Area and Major Trading Area Listings, which list the counties contained in each BTA, as embodied in Rand McNally's Trading Area System Diskette and geographically represented in the map contained in Rand McNally's *Commercial Atlas & Marketing Guide*. Rand McNally has licensed the use of its copyrighted MTA/BTA listings and maps for certain services such as Personal Communications Services (PCS), 800 MHz Specialized Mobile Radio Services (SMR) and Local Multipoint Distribution Services (LMDS). Rand McNally had also reached an agreement in principle with the American Mobile Telecommunications Association (AMTA) for a blanket copyright license for the conditional use of the copyrighted material in the 900 MHz SMR service. These agreements authorize the conditional use of Rand McNally's copyrighted material in connection with these particular services, require interested persons using the material to include a legend on reproductions (as specified in the license agreement) indicating Rand McNally's ownership, and provide for a payment of a license fee to Rand McNally.

36. Currently, MDS is not covered by any blanket copyright license agreement. While current and prospective MDS licensees and other parties interested in using the copyrighted materials may negotiate their own licensing arrangement with Rand McNally, as in other services, we encourage interested parties and Rand McNally to explore the possibility of entering into blanket license agreements similar to those noted above to cover MDS. In any event, we note further that an MDS BTA authorization grantee who does not obtain a copyright license (either through a blanket license agreement or some other arrangement) from Rand McNally for use of the copyrighted material may not rely on grant of a BTA-based authorization from the Commission as a defense to any claim of copyright infringement brought by Rand McNally against such grantee. The MTA/BTA Listings, the MTA/BTA Map and the license agreements noted above are available for public inspection at the MDS public reference room, Room 207, 2033 M Street, N.W., Washington, D.C.

37. The Commission will consider awarding the 487 BTA authorizations in the United

³⁶ See Rand McNally 1992 *Commercial Atlas & Marketing Guide* at 39.

States, with the following additions to be authorized as BTA-like areas: American Samoa, Guam, Northern Mariana Islands, San Juan, Puerto Rico, Mayaguez/Aguadilla-Ponce, Puerto Rico, and the United States Virgin Islands. Thus, a total of 493 authorizations will encompass all land areas within the United States and related territory. We reiterate that, based on its geographic size, and the extent of encumbrances, it may not be possible in a particular BTA to design and select a station site for any MDS station without negotiating an agreement with one or more affected previously authorized or proposed, cochannel or adjacent channel MDS or ITFS stations. However, we are going to hold auctions initially for all BTAs for which mutually exclusive, short-form applications are filed. The Commission will announce the time and place of the auction and the applicable bidding procedures by a future public notice. Applicants wishing to participate in the auction process will file a short-form application indicating each BTA service area for which they desire to bid. To determine eligibility to apply for a BTA service area, we will apply the same general eligibility requirements for an MDS authorization.³⁷ There is no restriction on the number of BTA service areas for which any entity may apply or on the number of BTA authorizations awarded to one entity. Incumbent MDS licensees, conditional licensees and applicants and new entrants will be eligible. Accordingly, prospective bidders will be able to aggregate adjacent BTAs to utilize economies of scale that currently benefit wired cable competitors. Selection from among the mutually exclusive applicants will be determined through a simultaneous multiple round bidding process. The auction winner for each BTA service area, if qualified, will be awarded a BTA authorization. The protected service area lies within the geographic boundary of that BTA, except as excluded by any 35-mile circle protected service areas of previously authorized or proposed MDS stations and except for channels related to ITFS lease agreements.

2. Rights and Responsibilities of BTA Authorization Holder

38. The following paragraphs describe the service rules regarding the rights and responsibilities of the holder of a BTA authorization, the duration of those rights and how an event will alter the boundaries of a protected MDS service area. For purposes of clarity, the chronology of the events would occur as follows: (1) the 35-mile protected service areas of incumbents will become fixed in place upon the effective date of the *Second Order on Reconsideration*; (2) issuance of public notices announcing auctions by geographic area, and specifying the filing periods for short-form applications and upfront payments; (3) issuance of a public notice identifying all applicants determined to be qualified to bid (*i.e.*, submitted acceptable short-form applications and sufficient upfront payments); (4) competitive bidding rounds; (5) after bidding has ended, the Commission would declare bidding closed and would notify the auction winners, who would then have five business days to make down payments and thirty business days

³⁷ See 47 C.F.R. §§ 21.4, 21.17, 21.900, 21.912. Because we are amending our rules to implement competitive bidding, our rules regarding random selection and comparative consideration would not apply to applications for new stations filed after the lifting of the freeze. See 47 C.F.R. §§ 21.31, 21.914.

to file at least one long-form application;³⁸ (6) following review of the long-form applications, the Commission would issue a public notice identifying those accepted and opening a thirty-day period for filing petitions to deny; and (7) if no petitions to deny are filed or if they are dismissed or denied, the Commission would issue a public notice stating that the BTA authorization and the MDS station license are ready to be issued. Assuming that the auction winner made full payment of its winning bid within five business days of this public notice, the Commission would grant one or more conditional station licenses for individual stations within the auction winner's BTA service area and issue the BTA authorization for the entire BTA service area.

a. Description of Authorization

39. The holder of a BTA authorization may file one or more long-form applications seeking authority to construct stations anywhere inside their BTA on usable MDS channels, provided the specific engineering design meets the Commission's interference protection standards to all authorized or previously proposed MDS and ITFS facilities, and complies with the prescribed signal strength limits at the BTA boundary, *i.e.*, at all points along the perimeter of the BTA. A separate conditional station license will be awarded for each single channel or channel group at each site location.³⁹ For example, separate licenses will be issued for the E Group, F Group and each of the three H Channels. In this *Report and Order*, the initial license for the BTA service area will be referred to as a "BTA authorization" and individual channels will be separately licensed. Thus, we will distinguish between three different types of authorizations for MDS facilities: (1) a "BTA authorization" awarded to an auction winner of a particular BTA following the requisite long-form application or statement of intention and requisite payment, (2) a "station license for each individual station within the BTA" service area held by an auction winner, and (3) a "station license" for an MDS facility authorized or previously proposed under the rules predating the effective date of this *Report and Order*. Accordingly, under the Commission's rules, as amended herein, the holder of a BTA authorization would file a long-form application for each usable single channel or channel group at each transmitter site within the auction winner's BTA service area, and will have a later opportunity to file amendments to correct any defects in the application. The construction period specified in each conditional station license granted for the

³⁸ If the BTA is so heavily encumbered that the winning bidder is unable to file a long-form application for a station within the BTA while protecting incumbents from harmful interference, the winning bidder must file a statement of intention of use of the BTA, accompanied by a current License Qualification Report (FCC Form 430), before the Commission issues the BTA authorization. *See infra* at ¶¶ 152-154.

³⁹ This in no way should be interpreted to reflect on other services where we are eliminating site licensing. *See Further Notice of Proposed Rule Making* in PR Docket No. 93-144 and PP Docket No. 93-253, FCC 94-271 (released Nov. 4, 1994), 59 Fed. Reg. 60,111 (Nov. 22, 1994); *Second Report and Order and Second Further Notice of Proposed Rulemaking* in PR Docket No. 89-553, PP Docket No. 93-253, and GN Docket No. 93-252, FCC 95-159 (released April 17, 1995), 60 Fed. Reg. 21,987 (May 4, 1995).

individual stations within the auction winner's BTA service area will be the five year build-out date which runs from the grant date of the first conditional license within the auction winner's BTA (granted the same date as the BTA authorization). When the portion of the system represented by a particular long-form application is constructed and ready to begin operation, the holder of the BTA authorization will file a corresponding certification of completion of construction. The license term for those stations will be the same ten-year term as MDS stations licensed prior to the adoption of this *Report and Order*. See 47 C.F.R. § 21.45. The ten-year term for the new licenses will commence on the date the Commission declares bidding in the MDS auction to be closed. The holder of a BTA authorization has a protected service area that is coterminous with the boundaries of their BTA service area, subject to exclusion of the protected service areas and/or locations of authorized or previously proposed MDS and ITFS facilities, as further discussed *infra* in ¶ 54. Individual station licenses that are a part of a BTA service area will not have a uniquely associated protected service area. The common protected service area of all individual stations within the BTA authorization will be the boundary of that BTA.

40. We emphasize that the actual service areas can be tailored through voluntary agreements among the affected parties. Although our rules indicate that the holders of BTA authorizations must locate all transmitter sites within the boundaries of the BTA and may not cause interference in adjacent BTAs, the interference rights may be modified through negotiation and written agreement. The MDS station facilities within the auction winner's BTA may be expanded or modified throughout the BTA service area so long as the system continues to be in compliance with our technical rules and protects incumbent MDS and ITFS facilities. The facilities may be expanded beyond the BTA or into the protected service area of an incumbent with an agreement from the entity that controls the adjacent BTA or the incumbent protected 35-mile circular area.

41. Consistent with our goal of establishing filing procedures and policies that will encourage the accumulation of a full complement of channels necessary for a viable MDS system, only the BTA authorization holder will be qualified to submit any new application for MDS use of available ITFS frequencies within the BTA in accordance with 47 C.F.R. § 74.990(a), and the ITFS application procedures of § 74.991. ITFS station licensees and prospective ITFS applicants that seek to construct and operate new ITFS facilities located within a BTA and that choose to lease excess channel capacity will be free to negotiate with any potential lessee, including the holder of the BTA. In furtherance of our goal of accumulating a full complement of channels, however, the holder of the BTA will be afforded the right to match the final offer of any proposed lessee. Should the holder of the BTA decline to exercise such right, then the ITFS applicant can enter into a lease arrangement with any operator it so chooses. This is not intended to interfere with present contractual rights that are in effect or renewal of those rights. In the case where a BTA authorization holder is the licensee of ITFS channels, the associated protected service area will be the entire BTA, and interference protection will be governed in the manner for protecting BTA service on MDS channels. However, in the case where a BTA authorization holder leases excess channel capacity from an ITFS licensee, the

protected area will be a 35-mile circle centered around the particular ITFS station in the BTA that leases the channels. We will afford this area the same protection generally afforded under our ITFS rules. BTA authorization holders in adjacent BTAs must protect points on the 35-mile circle using cochannel and adjacent channel desired-to-undesired signal strength ratios of 45 dB and 0 dB, respectively. A special case will occur whenever BTA authorization holders in adjacent BTAs both lease the same ITFS channel group, such that the 35-mile protected circle of each extends into the BTA of the other. In this regard, we will expect the respective ITFS entities and BTA holders to reach an agreement concerning interference protection near their common boundary. Moreover, a BTA authorization holder will not be required to protect that portion of the 35-mile circle associated with the other authorization holder that falls on his or her side of the boundary. We believe that this approach will promote our policy objectives for this service and will similarly have only a positive effect on the continued successful development of ITFS with the ever expanding financial support for that service provided by wireless cable operators.

42. The available MDS spectrum within a BTA authorization will increase if the unconstructed facilities or unused channels held by an MDS incumbent with transmitter site locations within a particular BTA are forfeited or if previously proposed conditional licenses or modifications are not granted. The holders of the BTA authorizations obtain contingent rights to this spectrum when they receive their authorizations, so that the forfeited channels will revert and become part of the BTA authorization up to the boundary of the BTA. The holder of the BTA authorization may subsequently file long-form applications for the forfeited channels, provided the specific station design meets the Commission's interference protection standards. Such a policy provides an incentive for the holders of BTA authorizations to find and document such warehousing violations, resulting in efficient use of fallow spectrum. In addition, authorization rights may be revoked or terminated because of gross misconduct, misrepresentation or bad faith by an applicant. Other events may also change the protected service area, such as the end of the five year build-out period, an assignment or transfer or partitioning of the BTA. These events are discussed in detail below.

b. Five Year Build-out Period

43. The build-out period in which the holder of a BTA authorization is permitted to expand service or initiate new service within their BTA service area will be five years. Specifically, we will provide the BTA authorization holder five years from the grant date of the initial BTA authorization to construct and operate the system. The purpose of this requirement is to ensure that service is promptly delivered to the public. *See* 47 U.S.C. § 309(j)(4)(B). This five year build-out period is not extended by the grant of subsequent authorizations, such as the grant of a long-form or modification application for an individual station within the BTA service area. We will require the holder of a BTA authorization to submit a showing to the Commission five years after the BTA authorization was issued demonstrating that it is providing a signal level sufficient to provide adequate service to approximately two-thirds of the population of the area within its control in the licensed BTA. The holder of the BTA

authorization must submit maps and other supporting documents showing compliance with this construction requirement. The Commission, in evaluating the showing, may consider line-of-sight obstructions and the ability to provide service without causing harmful interference to other MDS or ITFS facilities. If the holder of the BTA fails to cover any of the BTA, it will forfeit the authorization and it will be ineligible to regain it. If the Commission determines that there are usable channels in an unserved or underserved area of the BTA, the Commission would partition the area along geopolitical boundaries and issue a public notice establishing the reauction of the partitioned area. This public notice would announce the auction or auctions by geographic area, specifying the filing period for short-form applications and the applicable bidding procedures. The holder of the BTA will forfeit the partitioned service area and will be ineligible to bid on it. We believe that this coverage policy is reasonable and will result in the channels being made available to applicants who will provide service to the public. We further believe that this will deter the warehousing of channels and ensure that the spectrum is being effectively utilized for MDS.

c. Assignment or Transfer of Control

44. The holders of BTA authorizations and MDS incumbents may negotiate mergers, buyouts, channel swaps, channel splits or make similar arrangements on a voluntary basis, pursuant to the general assignment and transfer provisions of 47 C.F.R. § 21.38. Both parties are generally permitted to buy from and sell authorizations to each other and to third parties, with few limitations.

45. Additional spectrum may be acquired by the holder of a BTA authorization through buyouts of incumbent licensees within their authorized BTA service area. As is the case with ITFS licensees, wireless cable operators may also acquire spectrum through leasing agreements with incumbents. In this case, the protected service area of the acquired station will extend to the BTA boundary or the existing 35-mile protected circular area (from the incumbent), whichever is larger. The holder of the BTA authorization may assign or transfer control of its entire BTA, which will include all authorized stations, subject to the unjust enrichment provisions for designated entities. *See infra* at ¶¶ 183, 189. Such an assignment or transfer of an entire BTA may also include unserved areas so long as the five year build-out period has not expired. If a BTA authorization is assigned or transferred, the new holder of the BTA authorization is held to the original build-out period. The holder of the BTA authorization may also partition portions of the BTA along geopolitical boundaries under our partitioning rules, discussed below, and contract with eligible parties, allowing such parties to file long-form applications for the usable MDS channels within that area. We believe that allowing the partitioning of portions of the BTA service area will encourage provision of service to rural areas, which will promote the most efficient use of the spectrum. *See* 47 U.S.C. § 309(j)(3)(A) (instructing the Commission to promote the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas).

d. Partitioning

46. During the five year build-out period, we will permit the holder of a BTA authorization to partition portions of its BTA authorization and enter into contracts with eligible parties, allowing such parties to file long-form applications for the usable MDS channels within that partitioned area. The BTA may be partitioned along geopolitical boundaries, and the Commission may grant such applications, provided they are in compliance with the rules. Also, a holder of a BTA authorization will be permitted to add to its service area by acquiring a partitioned service area from the holder of an adjacent BTA. Following grant of such an application, the authorization will be referred to as "partitioned service area." The holder of a partitioned service area would, in effect, then hold something similar to a BTA authorization for the partitioned area. The protected service area will become or expand to the boundaries partitioned along the designated geopolitical boundaries and the same technical rules will apply, including the limiting signal strength at the boundaries of the partitioned area. Accordingly, the construction period for the partitioned service area will be the remaining portion of the five year build-out period and at the end of this five year period, the holder of the partitioned service area must demonstrate that it is providing substantial service to the partitioned area. Once construction is complete, the license term will run ten years from the date the Commission declared bidding in the MDS auction to be closed.

47. We agree with Rural Wireless that allowing holders of the BTA authorizations to partition will facilitate the provision of service to small markets and rural areas, some which currently have no source of multichannel video programming.⁴⁰ Partitioning will also promote the most efficient use of the spectrum and encourage participation by a wide variety of entities, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. *See* 47 U.S.C. §§ 309(j)(3)(B), (3)(D) and (4)(C).

e. Technical Rights and Responsibilities

48. In determining interference protection standards and other technical provisions under this new approach to MDS authorization of service, our objectives are two-fold: (1) to provide maximum flexibility to allow both new BTA authorization holders and current MDS licensees, conditional licensees, and applicants to develop and expand service in the most rapid and economically feasible manner, and (2) to assure that the introduction of new MDS service will not result in objectionable interference to the services of incumbent stations and will minimize in so far as possible the extent of potential interference within BTA service areas. These objectives and the provisions herein take into account the extent to which the current service has been built around successful negotiations among neighboring operators and/or licensees, as well as prospective operators and licensees. We fully expect this spirit of cooperation and accommodation to continue and, while we will adopt interference protection provisions for BTA and incumbent service, we will allow and indeed encourage the holders of BTA authorizations and incumbents to work out mutually agreeable interference concerns with other potentially affected parties whenever possible.

⁴⁰ Comments of Rural Wireless at 10; *See also* Reply Comments of Rural Wireless at 8; National Telephone Cooperative Association (Telephone Cooperative) at 3.

49. As a result of this *Report and Order* and a separate MDS order we are adopting today, protected service areas for BTA authorization holders and MDS incumbents will be defined differently. *Second Order on Reconsideration* at ¶¶ 2-31. We believe this approach will best facilitate the full development of incumbent wireless cable systems, many of which already have secured the desired transmitting site, and serve subscribers within a metropolitan area from a single site. In addition, this approach may allow the rapid expansion of new MDS service into other unserved portions of BTAs. We adopt an idea contemplated in the *Notice*, that the perimeter of a predetermined geographic area (BTA) generally defines its protected area. The holders of BTA authorizations will not be permitted to cause interference within the boundaries of an adjacent BTA, without the consent of the affected authorization holder. When such interference occurs, an offending party will be expected to act promptly to eliminate any unwanted interference in another operator's BTA.

50. Interference among adjacent BTA operators will be partially controlled by establishing an allowable limit for a station's predicted signal strength at all points along a BTA boundary. The same limiting signal strength will apply at the boundaries of every BTA, regardless of its size or shape. An exception to this limit would be justified where a single entity obtains authorization for adjacent BTAs. While we recognize that several commenting parties are concerned that an MDS signal simply does not stop at the area boundary, we believe the level of limiting signal strength given below, together with the multitude of available interference abatement techniques, will facilitate control of interference between BTA authorization holders in adjoining BTAs. Interference levels to BTA holders from MDS incumbent stations will be partially governed by establishing the same maximum allowable signal strength along the boundary of incumbents' 35-mile circular areas, the expanded area provided in the *Second Order on Reconsideration*.

51. At first glance, it would appear that the approach to interference control between adjacent BTAs would be ineffective, given that the levels of desired (D) and undesired (U) could be the same at the common boundary between BTAs. The resulting desired-to-undesired signal strength ratio (D/U) of 0 dB falls well below the 45 dB standard now governing interference between MDS stations operating on the same channel. However, taking the signal suppressing affects of receiving antennas into account and further assuming that the desired and undesired signals are coming from opposite sides of the BTA boundary, the D/U ratio improves to as much as 25 dB. If we further expect that in most cases, stations on opposite sides of the boundary would operate with different antenna polarizations, then the D/U ratio further improves to 45 dB. These numbers are based on the characteristics of the standard MDS receiving antenna found in 47 C.F.R. § 21.902(f). Alternatively, station operators on opposite sides of a BTA boundary may design their facilities with agreements between affected parties to operate on a frequency offset basis, with a less restrictive D/U ratio of 28 dB necessary to prevent cochannel interference in this situation. Indeed, a host of interference abatement techniques could be employed to prevent interference near BTA boundaries. Admittedly, this approach relies more on operator interference agreements and the honoring of another's interference rights than it does on applying rigid interference standards in the processing of applications. However, if we were to mandate strict compliance with the 45 dB cochannel and 0 dB adjacent channel D/U signal strength ratios (the

current MDS interference standards) to protect BTA service at the BTA boundary, we believe there would be populated areas within a substantial number of BTAs that may never be served due to the irregular sizes and shapes of BTAs. Moreover, as we have indicated, given the nature and history of the service, as well as the likelihood that auction participants will be experienced in conducting negotiations, we believe that we can prevent unwanted interference by relying primarily on negotiated agreements and voluntary compliance with our interference right-of-ways, which we will enforce as necessary. Thus, we consider our limitation of signal strength at the BTA boundaries and incumbent service areas as a secondary means of interference protection.

52. Inasmuch as incumbent stations lie within BTAs and authorized BTA stations will not have their own protected service areas, interference from incumbent stations can only be governed by agreements between affected parties, and indirectly, by placing a limiting value on the strength of the signal at the boundary of incumbent MDS stations. A signal strength, regardless of its numerical value, will not by itself eliminate the potential for interference from incumbent stations. Terrain shielding, and other abatement techniques will also be helpful in this regard; however, the most effective means of controlling interference will be the agreements between BTA authorization holders and incumbent MDS licensees, which for example, may stipulate that an incumbent utilize a directional antenna pointed away from the affected BTA.

53. We have selected as the limiting signal strength a power flux density value of -73 dBw/m^2 . This value corresponds to a received power level of approximately -83 dBw (decibels above 1 watt) or -53 dBm (decibels above 1 milliwatt), given a receiver antenna with a maximum gain of 20 dBi. A power flux density value is used because "free space" propagation is the model long used in the MDS service. This variable depends only on the level of power radiated from a transmitting antenna and the distance between the transmitting and receiving locations. The value of -73 dBw/m^2 was selected because it is the "free space" value of power flux density achieved with an equivalent isotropically radiated power (EIRP) of 2,000 watts (the maximum allowable EIRP in the MDS service where omni-directional antennas are used) at a distance separation of 35 miles. This numerical value is stronger than the power flux density achieved under standards used in the MDS service for many years, *i.e.*, a value of -75.6 dBw/m^2 is achieved with 200 watts of EIRP at a distance of 15 miles. Moreover, based on the record in the *Second Order on Reconsideration*, it is clear that many wireless cable systems serve a substantial subscriber base at distances of 35 miles or even greater. Thus, we conclude that the selection of this value of limiting signal strength will generally enable service over unobstructed signal propagation paths at the 35-mile boundary of an incumbent's transmitting facilities. The ability to achieve this signal level at a BTA boundary will vary considerably, depending on the size of the BTA and the placement of a transmitting facility. Clearly, because of their large size, service of many BTAs will require multiple transmitting facilities.

54. In the *Notice* we stated our intention not to change the interference protection standards applied "at points along the service contours of protected facilities." *Notice* at 7674.

Accordingly, BTA authorization holders will be required to design their transmitting facilities to protect points along the 35-mile circles and points within the protected service areas of incumbents' licensed stations, conditionally licensed stations, or previously proposed applications. Specifically, stations proposed in BTA long-form applications must meet the 45 dB and 0 dB cochannel and adjacent channel desired-to-undesired signal strength ratios at the boundary of each protected 35-mile circle. We will also continue to use these stricter protection standards within incumbents' protected service areas. Unlike BTA service, which does not yet exist, incumbent stations have an established subscriber base in many cities and rural areas throughout the country. Wireless cable systems were carefully crafted, both through engineering design, site location and negotiation among affected parties, and in partial reliance on the Commission's protection standards. To a considerable extent, these systems provide interference-free reception to subscribers, many out to distances beyond 35 miles. Because many wireless cable systems have been serving subscribers well beyond their current 710 square mile protected service area, we do not wish to disrupt existing service patterns which compete with wired cable systems.

55. The holders of BTA authorizations within 80 kilometers (50 miles) of the Canadian or Mexican borders, may only operate on MDS channels pursuant to the restrictions in international agreements. Thus, applicants considering authorizations for these BTAs should consider the impact of the additional border requirements in their valuation of the service areas for competitive bidding purposes.

3. Treatment of Incumbents

56. As we have stated, a principal objective in this proceeding is to allow incumbents to continue existing operations without objectionable interference from new MDS operations and to allow them sufficient flexibility to modify their facilities to respond to market forces. Expansion of the protected service boundary to 35 miles will increase an incumbents' service area from 710 square miles to 3848 square miles, which will allow for the future orderly development of wireless cable systems, particularly as digital technology is introduced. *Second Order on Reconsideration* at ¶¶ 2-31.

57. Incumbents, unless they also control the adjacent BTA territory (either as BTA authorization holders or through interference agreements) will not be free to expand further their service area into the adjacent BTA. The manner we choose to prevent such occurrences is to define a limiting power flux density of -73 dBw/m², which may not be exceeded at points along the 35-mile protected service area. Subject only to this limitation, incumbents will be free to file long-form applications at any time to modify their facilities or add facilities such as signal boosters. In a small number of cases involving directional antennas, an incumbent's power flux density may already exceed -73 dBw/m², for signal paths in some directions at a distance of 35 miles. In such cases, we would not force the incumbent to reduce the signal strength to the allowable limit, nor would we allow the signal level to increase. Incumbents who propose to modify their stations must continue to seek prior Commission approval pursuant to 47 C.F.R. §§

21.40 through 21.42, and include any agreements with the holder(s) of a BTA authorization(s). All other current rules continue to apply to MDS incumbents unless specifically amended.

58. Finally, since the incumbents' 35-mile protected circles will be embedded within one or more BTAs, to prevent additional encroachment into a BTA we must at some point fix the 35-mile circles around a permanent reference point, absent an interference agreement with a BTA authorization holder. Accordingly, on the effective date of the rules adopted in the *Second Order on Reconsideration*, we will permanently fix the location of the protected 35-mile circles in the following manner. For incumbent licensees with no conditional licenses or pending applications, the "protected reference coordinates" will be those of the current site. Subsequent changes in site location would be permitted; however, the 35-mile circle would remain centered about the previous site coordinates. For incumbents having only a conditional license or a new station application pending before the effective date, the site coordinates specified for the conditional license or pending application will become the reference coordinates. In cases where an incumbent has two or more authorizations and/or pending applications on the effective date, the reference coordinates in each authorization and/or application will be provisionally treated as the permanent reference coordinates of the protected circle. Eventually, pending applications will be disposed of and conditional licenses will either become licenses or be forfeited for failure to construct.

4. Alternative Uses of MDS Frequencies

59. The principal use of MDS frequencies is wireless cable service. Under Section 21.903(a) of the Commission's rules, 47 C.F.R. § 21.903(a), MDS stations are "generally intended to provide one-way radio transmission (usually in an omnidirectional pattern) from a stationary transmitter to multiple receiving facilities located at fixed points." At the same time, our rules permit use of MDS frequencies for other kinds of services. Section 21.903(b), 47 C.F.R. § 21.903(b), states that "[u]nless otherwise directed or conditioned in the applicable instrument of authorization, Multipoint Distribution Service stations may render any kind of communications service consistent with the Commission's rules on a common carrier or on a non-common carrier basis" We wish to emphasize that nothing in this *Report and Order* precludes either new licensees or incumbents from using MDS frequencies for other kinds of services pursuant to 47 C.F.R. § 21.903(b). We note, however, that such applicants may need to apply for waivers of certain MDS technical rules, such as 47 C.F.R. §§ 21.903(a) and 21.906.

B. INTERFERENCE CRITERIA AND DATA ELEMENTS

60. *Proposals.* As a complement to the filing proposals and electronic procedures, the *Notice* proposed to adopt a technical equation as the basis for the "free space" interference protection calculations. The Commission's MDS engineers currently utilize this formula and it is recognized by engineering consulting firms in the wireless cable industry:

The received signal power level $(RSL)_{dBW}$ at the output of the FCC reference receiving antenna is obtained from the following:⁴¹

$$(RSL)_{dBW} = (EIRP)_{dBW} - (L_{FS})_{dB} + (G_{AR})_{dB}$$

where the free space loss $(L_{FS})_{dB}$ is

$$(L_{FS})_{dB} = 20 \log (4\pi d/\lambda) \text{ dB}$$

In these equations, $(RSL)_{dBW}$ is received power in decibels referenced to one watt, $(EIRP)_{dBW}$ is equivalent isotropically radiated power in decibels above one watt, d is the distance of the signal path in meters, λ is the wavelength of the signal in meters, and G_{AR} is the gain of the reference receiving antenna, as obtained in 47 C.F.R. § 21.902(f)(3), Figure 1. The *Notice* proposed to formalize the above equations by adopting them as a rule provision as part of a plan to implement computerized interference studies. Additionally, the *Notice* stated that we will require proposed facilities to meet the 45 dB and 0 dB cochannel and adjacent channel desired-to-undesired signal strength ratios at points along the service contours of protected facilities which were authorized under the current interference standards. With regard to long-form applications, we proposed to retain the requirement in 47 C.F.R. § 21.902, that an applicant perform analyses of the potential for harmful interference and serve such interference studies upon the authorized or previously proposed station applicants, conditional licensees or licensees required to be studied, but we would not require the submission of a list of those served at the time the long-form application was filed. We explained that, on the revised long-form application form, the applicant would supply certain crucial data elements describing the station parameters, such as antenna polarization and the station EIRP, while the Commission staff would perform interference analyses using a computer program. The *Notice* stated that, although the submission of interference or other engineering analyses would not be required with the long-form application, we would require the applicant to make the records available for Commission inspection upon request. We also questioned in the *Notice* whether we should eliminate signal contour maps as a required part of the interference studies.

61. Pursuant to our streamlining effort, the *Notice* proposed to improve the current application form used for new MDS stations, FCC Form 494,⁴² by excluding certain data elements which have yielded information that is no longer necessary or of only marginal utility. Specifically, we proposed to eliminate queries regarding the antenna vertical sketch and the narrative description of why grant of the application would be in the public interest. We further proposed to exclude the following parameters of the transmission system: transmitter

⁴¹ Leon W. Couch II, *Digital and Analog Communication Systems*, p. 384 (3rd ed. 1990).

⁴² Since Form 494 is a multi-purpose form that is used for other services, to the extent that we are proposing changes, we intend to create a different form to be used for MDS.

manufacturer and model number, transmitter output power, transmitting antenna gain and the specification of transmission line and other transmission losses. We observed that with regard to transmitters, we are only concerned that MDS licensees operate transmitters that are "type-accepted" by the Commission for use in this service. Accordingly, we proposed to eliminate the requirement that the applicant identify the transmitter make and model, and simply require that the conditional licensee certify that its transmitter is "type-accepted" in its certification of completion of construction, currently FCC Form 494A. The MDS rules now provide for a maximum EIRP, rather than a maximum value for transmitter output power. *See* 47 C.F.R. § 21.904. Thus, the *Notice* stated, so long as the EIRP remains within the limits of Section 21.904, it is not necessary to require applicants to specify the equipment parameters used to calculate EIRP. The *Notice* also proposed to allow changes to these transmission parameters without notification to the Commission, provided the resulting EIRP would not change. The station power to be specified on the application form would be the maximum EIRP in the horizontal plane, *i.e.*, the EIRP at an angle of zero degrees in the vertical plane. We proposed to permit electrical beam tilting of antennas; however, in all cases, applicants would be required to specify the EIRP in the zero degree vertical (horizontal) plane. Where beam tilting is employed, the EIRP at the zero degree vertical angle will be less than the maximum EIRP at the tilt angle, due to the vertical suppression characteristic of the transmitting antenna. In most instances, this value of EIRP closely approximates the power radiated to the radio horizon which is most relevant to interference analysis. By proceeding in this manner, we would not need to collect data on antenna vertical radiation patterns.

62. The *Notice* proposed to further modify the long-form application in an effort to make the form compatible with an electronic filing system. At the present time, we propose to use a new long-form application together with the current FCC Form 430, the Licensee Qualification Report. An appendix to the *Notice* listed data elements and other informational items for our proposed new electronic application form, including general, engineering and legal elements. For example, we proposed to retain engineering data elements necessary for analysis of interference or possible air safety hazards, such as transmitting antenna site coordinates, EIRP, antenna polarization, site elevation and antenna structure height above ground. Other data would be used to verify an applicant's compliance with a particular Commission rule, such as when antenna beam width is used to calculate the maximum allowable EIRP of a station using a directional transmitting antenna. We also proposed to retain applicant responses which demonstrate compliance with a particular statutory requirement, such as an environmental assessment.

63. In reference to applicants locating stations in areas where notification or coordination with Canada or Mexico is required by international agreement, the *Notice* indicated that these applicants would be required to submit the following additional technical data, which were not proposed as standard data elements in the electronic long-form application: transmitter output power, transmitting antenna gain and transmission line loss. In addition to the EIRP at a vertical angle of zero degrees, applicants in the border areas will be required to specify the maximum EIRP at the vertical angle corresponding to the beam tilt. The *Notice* explained that the additional data requirements could be submitted in a textual exhibit to the electronic application or

a paper supplement.

64. **Comments.** Several commenters support use of the proposed interference protection calculations and use of a computer-assisted interference program.⁴³ Vega suggests that the Commission make the program available to all users. The Association generally supports the formula but is concerned that the proposal to require proposed facilities to demonstrate compliance with the 45 dB and 0 dB D/U ratios only at points along the protected service area contour could prove problematic when terrain shielding protects the contour of the protected service area, but not internal points.⁴⁴ To avoid this problem, the Association recommends, the Commission should mandate that when terrain shielding is relied upon to demonstrate interference protection at the boundary, an analysis be conducted of the potential for interference along the given radial at the point farthest from the desired station that is not terrain shielded, if any. Hardin supports use of the formula and points out, however, that the *Notice* fails to address frequency offset and terrain shielding.

65. Dalager, Hammett & Edison, Inc. (Hammett) and Marshall state that the proposed interference protection calculations are too simplistic and thus inadequate because they fail to consider terrain shielding, frequency offset or cross polarization. Comments of Dalager at 3; Hammett at 1-2; Marshall at 8. Hammett further explains that use of EIRP in the horizontal plane ignores beam tilt, concluding that many completely sound designs would be rejected if this approach is used. Marshall suggests that the free space propagation formula be combined with the equation for desired-to-undesired signal strength ratio.

66. Five parties discuss the submission of maps with the engineering proposal in the long-form application. Dalager recommends that the Commission examine adjacent channel MDS stations only as far as 25 miles away, rather than 100, and cochannel stations only far enough out that a signal reaches their protected area, rather than a mandatory 100 miles. Hardin agrees with Marshall's contention that there is no need for 100-mile maps of adjacent channel stations and suggests that investigating potential for adjacent channel interference within 50 miles should be sufficient.⁴⁵ Mitchell asserts that signal contour maps, while not a requirement, should be encouraged to prove interference free operation because they will enhance the acceptability for new applications. Vega agrees with Commission's proposal to modify 47 C.F.R. § 21.902(c)(2) and eliminate the map requirement. Hardin requests that we standardize the methodology used to demonstrate terrain shielding, suggesting the use of shadow maps as the most efficient method.

⁴³ See, e.g., Comments of Hardin at 11; Mitchell at 3; Vega at 10; Association at 50; ACS Enterprises, *et al.* at 15.

⁴⁴ The Commission may waive its interference protection rules when it is apparent that the signal is blocked by a substantial terrain obstruction, referred to as terrain shielding.

⁴⁵ This issue is the subject of a petition of reconsideration of *Report and Order*, PR Docket 92-80, 8 FCC Rcd 1444 (1993).

67. The Association states that the list of proposed data elements and other informational items for our proposed new electronic application form, including general, engineering and legal elements, appear to be appropriate. We received several specific comments in response to our proposal to exclude certain data elements which have yielded information that is no longer necessary or of only marginal utility. Caritas agrees with the *Notice*, that transmitter power ratings should no longer be required, but Hammett contends that the Commission should not eliminate the requirement that applicants specify the parameters used to calculate EIRP. Comments of Caritas at 3; Hammett at 2. Hammett believes that the Commission needs the details on how EIRP was calculated because it is important to allow others to check the accuracy of claimed EIRP values. Similarly, Vega recommends that the Commission retain the antenna vertical profile sketch because it plays an important role in the attributes of mounting configurations of a particular MDS facility in relationship to other services utilizing the structure and gives general identification of the type of structure, which can be particularly helpful under situations such as elaborate structure mounting configurations like the Empire State Building. Vega believes that the long-form application should retain the questions on detailed technical information, such as transmitter type, transmission line loss and/or antenna gain including antenna manufacturer and model number, currently requested on Form 494. Caritas agrees with the Commission's proposal to retain the notification requirement of cochannel and adjacent channel licensees and permittees, and further recommends that applicants maintain application summaries and make them available to entities with sites within a 75-mile radius upon request.

68. Some commenters suggested that we eliminate specific requirements. Many commenters request elimination of the requirement under 47 C.F.R. § 21.902(i)(3), to serve, by certified mail, a copy of the interference analysis on ITFS licensees or permittees, and one of those parties requests that we revise Section 21.902(c) to eliminate the requirement to file interference studies for previously proposed MDS stations which at one time had been informally classified as a lottery loser. Crowell & Moring and CAI Wireless argue that a licensee should be permitted to establish transmitter sites anywhere within the boundaries of its service area or modify its facilities without prior approval from the Commission, so long as the licensee subsequently files the technical details and certifies that the modification complies with the interference protection requirements. Comments of Crowell & Moring 8-9; CAI Wireless at 8. CAI Wireless also suggests that the Commission end its regulation of beam benders, multiple transmitter systems and other engineering solutions which expand service quickly to underserved areas.

69. **Resolution.** With some additional clarification, we will adopt the proposals raised in the *Notice*, including the free space equation and the proposed data elements for the long-form application. A draft long-form application, FCC Form 304, is attached as Appendix D.⁴⁶ We will develop computer programs that will help to streamline the processing of the long-form and

⁴⁶ The Office of Management and Budget has not yet approved the FCC Form 304 pursuant to the Paperwork Reduction Act. A public notice will be issued when the new form has been approved and is available for use.

modification applications of MDS incumbents and BTA authorization holders. A program is being designed that will perform cochannel and adjacent channel interference analysis at one degree intervals along the protected 35-mile circle of incumbents' authorized stations or protected station proposals. This program, as envisioned, will use the Commission's three-second terrain data base to check for unobstructed signal paths between the site of the station being studied and points along the incumbent's protected contour. For those radials on which line-of-sight conditions do not exist, either due to a terrain obstruction or the earth's curvature, the program will conclude that interference would not occur at that point. We note, following long-standing Commission practice, that all line-of-sight determinations will assume a receiver height of 30 feet and a standard 4/3 earth radius for determining the electrical horizon. Where line-of-sight conditions exist, the program would first determine the proposed station's EIRP in the pertinent direction, based on the EIRP and horizontal relative field strength tabulation given in the application. The received signal power level of the proposed station, the "undesired signal" (U), will then be calculated using the free space equation. The value of the receiver antenna gain in this calculation will depend on the angular relationship between the radial azimuth and the orientation of the receiving antenna. We will assume that the latter is pointed toward the station being received. The gain will also depend on whether the proposed station is cross polarized or co-polarized with respect to the protected station. The receiving antenna gain will be that of the reference receiving antenna found in Section 21.902(f)(3), Figure 1 of the Commission's rules. We here establish a fixed value for the "desired signal" level at the 35-mile boundary. Assuming a receiver antenna gain of 20 dB above an isotropic antenna, an EIRP of 2000 watts (33 dBw) and a frequency of 2638 MHz, the midpoint frequency between channels E1 and H3, the free space propagation equation gives a value of - 82.9 dBw. Our computer program will therefore use a received power level ("D") of - 83 dBw as the value of the desired signal strength. Finally, the program will compute the value of the desired-to-undesired signal strength ratio ("D/U"), which in logarithmic units is expressed as D - U. This value will be tested against the minimum standard of 45 dB.

70. Another program is being designed that will analyze the impact of incumbents' modification applications. This program will analyze 360 radials spaced by one degree, first checking for unobstructed line-of-sight paths to the 35-mile boundary and, for clear paths, calculating the free space signal strength that would result from the modification and comparing it to the maximum allowable limit; that is, a power flux density value of - 73 dBw/m². To the extent that we are not constrained by licensing agreements with third parties and to the extent resources are available, we will make our computer programs available to the public. This will be announced in a subsequent public notice.

71. We emphasize that we will use computer models as application processing tools. Similar processing tools have been successfully used for Low Power Television Service with very few reported cases of interference to television reception, none of which occurred inside of a station's protected contour. The MDS interference standards should not be confused with the processing methods, which can only approximate the standard. For example, under the interference standards, incumbents' 35-mile areas are to be protected not only at points along the

boundary, but also within the boundary.

72. Although, as applicable, we will require MDS applicants to prepare interference analyses or notification of application filings, and serve these on potentially affected parties, we will generally not require that such studies or a list of the parties served be included with applications. However, since electronic filing will be implemented in this service on a voluntary basis, we will allow applicants to submit interference studies with their applications on a voluntary basis. Applicants may also submit negotiated agreements of tailored interference protection or operation on the basis of frequency offset. Applicants may submit terrain shielding studies based on methods of their own choosing, including shadow maps. There are no universally accepted methods for terrain shielding studies given the widely varying characteristics of terrain features. Therefore, we believe it is appropriate to afford applicants the flexibility to select a terrain model suitable to the terrain being analyzed. Additionally, we are persuaded by the comments that interference studies should no longer be required to include contour maps. As Marshall points out, contour lines can be used in several ways and are most useful when drawn on a terrain shadow map, which is not a required element in the application process. Applicants may continue to prepare interference studies with D/U contour lines at their discretion. Given the structure and processing tools associated with our new licensing approach for the MDS service, we will not prescribe how applicants' interference studies are to be conducted. Further, potentially affected parties who are served a study and disagree with its conclusions may file a petition to deny an application.

73. As contemplated in our *Notice*, we intended to streamline our application forms in accordance with our actions herein. We are, therefore, directing the staff to incorporate as appropriate those data elements previously listed in the *Notice* into a revised and reformatted long-form application for use in the future by MDS applicants seeking to construct new stations or to make changes in their authorized facilities.

C. ELECTRONIC FILING AND ELECTRONIC FEE PAYMENTS

74. **Proposals.** In the *Notice* we invited comment on the feasibility of utilizing mandatory electronic filing for new MDS applications, on whether ITFS applicants should be required to file applications for new stations electronically on a combined application form,⁴⁷ and on whether there should be a paper exception for those educators that are not financially supported by a wireless cable operator. *Notice* at 7676-77. The *Notice* suggested that communication links could be used to exchange application data between applicants and the Commission, thus minimizing the filing of paper with the Commission and allowing the Commission to process MDS

⁴⁷ In 1992, Congress amended the Communications Act of 1934 to permit the electronic filing of license and construction permit applications. See Telecommunications Authorization Act of 1992, Pub. L. No. 102-538, § 204, 106 Stat. 3533, 3543, codified at 47 U.S.C. §§ 308(b) and 319(a). Such applications may be signed "in any manner or form, including by electronic means, as the Commission may prescribe by regulation." *Id.*

and ITFS applications more efficiently. Pursuant to the proposal, an electronic form would be designed for personal computers using a Windows based environment, and consisting of a series of computer screens. One possible approach identified in the *Notice* involves the use of electronic mailboxes such as that of a Value Added Network (VAN). Applicants would transmit relevant data from their personal computer to a VAN electronic mailbox. The VAN would, in turn, convert the data into a format compatible with Commission files and download the information to an electronic mailbox at the Commission. In the *Notice*, we recognized the possible limitations of this approach with respect to maps and other graphic representations. We envisioned that the public would have on-line viewing access to our data bases, perhaps through a third-party vendor in addition to access at the Commission's public reference room.

75. In the *Notice*, we also proposed expanding the acceptable methods of payment for application fees to include electronic payment under 47 C.F.R. § 1.1109.⁴⁸ We stated our intention of announcing the procedures for the electronic payment of fees in a public notice, pursuant to Section 1.1109(a)(1). We sought comment regarding a fee system where applicants use a unique fee payor number together with an appropriate service code and a suffix in cases where applicants file multiple applications, in order to link the fee payment with the electronically filed application.

76. **Comments.** The majority of commenters support the Commission's initiative to implement electronic filing and agree that access by the public to the data base would facilitate more accurate and up-to-date information concerning filings with the Commission. Commenters are split on whether electronic filing should be mandatory or voluntary. In addition, many commenters believe that the Commission should adopt a hybrid approach to electronic filing, permitting paper filing of graphic representations and maps. A number of commenters express concern regarding what software and access method would be used, stressing that the Commission should implement a solution that is user-friendly and able to accommodate multiple operating environments. A few commenters express concern about data security and system reliability. We received no objections to electronic fee payment. Specific comments are discussed below.

77. Commenters who support an electronic filing approach have differing views on whether electronic filing should be mandatory or voluntary.⁴⁹ The Association's position is that

⁴⁸ The Commission recently amended 47 C.F.R. §§ 1.1108 and 1.1109 to permit the electronic filing of fee payments, initially on an experimental basis. *Implementation of Section 9 of the Communications Act, Report and Order* in MD Docket No. 94-19, FCC No. 94-140 (released June 8, 1994), 59 Fed. Reg. 30,984 (June 16, 1994) at ¶¶ 50-51.

⁴⁹ See, e.g., Comments of Association at 47; and ITFS Parties at 2 (calling for mandatory electronic filing). ITFS Parties includes South Carolina Educational Television Commission, State of Wisconsin-Educational Communications Board and University of Maine System. See, e.g., Comments of Rural Wireless at 12-13; Caritas at 4; National ITFS at 4; Pepper & Corazzini,

electronic filing should be mandatory, noting that the costs of electronic filing are small compared to the costs of constructing and operating MDS or ITFS stations. Furthermore, the Association asserts that the entire electronic filing system would be compromised if some or all ITFS licensees were exempted, because the data base would then no longer be complete or definitive. ITFS Parties share this view. However, ITFS Parties suggest that the Commission consider permitting, for a short transition period, applicants who filed paper copies to refile their applications electronically within thirty days of Commission notification if they certify that they were unaware of the electronic filing mandate. Further, ITFS Parties suggest that the Commission not require that all ITFS filings be electronically filed (*e.g.*, certifications of completion of construction, assignments and transfers).

78. Conversely, several commenters propose voluntary electronic filing, claiming that smaller applicants might not have access to the technologies necessary for completion and submission of applications via electronic filing, and that an immediate and mandatory conversion to an electronic filing system could undermine the goals of the proposal, in part due to technical questions and applicant confusion. For instance, Caritas claims that mandatory electronic filing would unfairly advantage larger educational institutions which have familiarity with, and access to, electronic networks. Similarly, National ITFS believes that mandatory electronic filing would place an unusual and onerous burden on educators whose application is not supported by an excess capacity lessee, and who may never apply for more than four channels. Pepper believes that the Commission should organize a committee to recommend Commission-wide electronic filing standards and procedures for all services. A few commenters express reservations about electronic filing and whether it would increase processing efficiency. *See, e.g.*, Comments of Marshall at 10-12; Vega at 14-15. Vega proposes that if the Commission implements electronic filing at all, it should proceed slowly in making a transition from paper to electronic filing.

79. Dalager and ITFS Parties agree with the Commission's observation in its *Notice* that electronic filing could be problematic in terms of feasibility and cost, with respect to graphic representations and maps. *See* Comments of Dalager at 3; ITFS Parties at 3. Dalager and ITFS Parties therefore propose that the Commission consider a hybrid system using both paper and electronic filing.

80. A number of commenters provide suggestions and recommendations regarding the type of software to be used and access methodology for electronic filing.⁵⁰ Essentially, commenters stress the need to carefully consider alternative approaches, access methodology, compatibility issues, ease of use and associated expense. For example, ITFS Parties propose that the use of the Internet, rather than a VAN for electronic filing may be a viable option, due to wide access to the Internet, and claim that use of a VAN would simply add to the applicants cost of

L.L.P. (Pepper) at 8; and Multi-Micro at 2 (calling for voluntary electronic filing).

⁵⁰ *See, e.g.*, Comments of ITFS Parties at 3-5; Marshall at 11-12; Pepper at 3-6; Reply Comments of Hardin at 6.

filing. Marshall claims that generally, engineering software used for MDS saves graphical information (such as shadow maps and radio path studies) in standard Hewlett Packard Graphics Language (HPGL) format, and suggests that whatever standard is used for electronic filing be compatible with HPGL. Hardin also holds the view that whatever standard is used, it should be compatible with HPGL. Pepper proposes that whatever software is used, it should be readily available, inexpensive, able to accommodate multiple platforms and it should be easy to access with standard communication software and protocols.

81. Pepper is concerned about computer security, including the authentication of the filing parties, and stresses the need for protection of confidential data. Vega is concerned about the security of the transfer protocol. A number of commenters, including Caritas, ITFS Parties and Pepper, note that a process should be put in place which enables applicants to ascertain what information was received by the Commission and on what date. These applicants express a need for an immediate and documentable confirmation of receipt, such as that which currently exists with date stamping. Pepper also stresses the need for selecting a reliable network capable of handling large volumes and having a reliable back-up system.

82. We received no objections to electronic fee payments. Vega expresses support for the Commission's adoption of a method of accepting electronic payments, assuming that other current forms of payment remain an option. Comments of Vega at 15; *See* Comments of Association at 50. Other commenters declined to address electronic fee payments.

83. **Resolution.** We will authorize voluntary electronic filing for new MDS applications. Use of an electronic filing system is not as essential under the filing approach we adopt today because we anticipate that fewer long-form applications will be filed. We also considered the burden on educators and determined that applications for new ITFS stations will not be included at this time. We appreciate the concerns expressed by commenters, including the cost to applicants of implementing and using electronic filing, data security and system reliability issues. We will take these concerns into account in deciding upon the software which will be used and the access method for electronic filing. We agree with commenters who encourage the Commission to evaluate carefully alternative electronic filing approaches and who suggest a transition period from paper filing to electronic filing. At the present time, we decline to accept the proposal put forth by Pepper regarding the establishment of a committee to recommend Commission-wide standards and procedures for all services, noting that the merits associated with the formation of such a committee would be outweighed by factors such as delayed decision making and implementation of electronic filing. Through subsequent public notices we will provide specific details concerning the method for electronically filing MDS applications. We will also authorize electronic fee payment for MDS applications. Current methods of payment available under 47 C.F.R.

§ 1.1109 will continue to be accepted. As our resources permit, we will work toward improved viewing access to the data bases.

D. COMPETITIVE BIDDING PROCEDURES

1. Competitive Bidding Background

84. On August 10, 1993, the Omnibus Budget Reconciliation Act of 1993 (Budget Act) added a new section 309(j) to the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-611 (Communications Act). This amendment to the Communications Act gave the Commission express authority to employ competitive bidding procedures to choose from among mutually exclusive applications for certain initial licenses. The Commission adopted a *Notice of Proposed Rule Making* in the competitive bidding proceeding on September 23, 1993.⁵¹ In its March 8, 1994 *Second Report and Order*,⁵² the Commission established general rules and procedures and a broad menu of competitive bidding methods to be used for all auctionable services, including MDS. We indicated in the *Second Report and Order* that in subsequent Reports and Orders we would set forth specific competitive bidding rules that would be applicable to individual services. To date, the Commission has established competitive bidding rules specifically applicable to, and has conducted auctions for, narrowband Personal Communications Services (PCS),⁵³ the Interactive Video and Data Service (IVDS),⁵⁴ and broadband PCS.⁵⁵ This *Report and Order* establishes competitive bidding rules and procedures for MDS.

85. Given the interdependencies we believe exist between authorizations for certain BTA service areas and the declining cost of conducting simultaneous multiple round bidding, we choose this auction method for use in MDS. We also adapt the general procedures set forth in the *Second Report and Order* so as to be compatible with the application procedures established for MDS in this *Report and Order*. Finally, we set forth rules to deter possible abuses of the bidding and application procedures, and establish special provisions for small businesses, including those owned by minorities and women, to encourage their participation in the competitive bidding process and in the provision of MDS system offerings.

⁵¹ *Notice of Proposed Rule Making* in PP Docket No. 93-253, 8 FCC Rcd 7635 (1993) (*Competitive Bidding Notice*).

⁵² *Second Report and Order* in PP Docket No. 93-253, 9 FCC Rcd 2348 (1994) (*Second Report and Order*), recon. granted in part, *Second Memorandum Opinion and Order*, 9 FCC Rcd 7245 (1994) (*Second Memorandum Opinion and Order*).

⁵³ *Third Report and Order* in PP Docket No. 93-253, 9 FCC Rcd 2941 (1994) (*Third Report and Order*), recon. granted in part, *Third Memorandum Opinion and Order and Further Notice of Proposed Rule Making*, 10 FCC Rcd 175 (1995) (*Third Memorandum Opinion and Order*).

⁵⁴ *Fourth Report and Order* in PP Docket No. 93-253, 9 FCC Rcd 2330 (1994) (*Fourth Report and Order*), petition for recon. pending.

⁵⁵ *Fifth Report and Order* in PP Docket No. 93-253, 9 FCC Rcd 5532 (1994) (*Fifth Report and Order*), recon. granted in part, *Fifth Memorandum Opinion and Order*, 10 FCC Rcd 403 (1995) (*Fifth Memorandum Opinion and Order*).

2. Auction Eligibility

86. The Commission has in the past employed a random selection process (*i.e.*, a lottery) to select from among mutually exclusive MDS initial applications. *See* 47 C.F.R.

§ 1.824. However, Section 309(j) of the Communications Act, as amended, permits auctions where (1) mutually exclusive applications for initial licenses or construction permits are accepted for filing by the Commission; (2) 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; and (3) the objectives set forth in Section 309(j) would be promoted. In the *Second Report and Order*, we concluded that single and multichannel MDS as classes of services would satisfy the Section 309(j) criteria for auctionability, and, thus, new initial applications in MDS would be eligible for competitive bidding. *Id.* at 2359. The *Second Report and Order* did not, however, expressly resolve the question of the auctionability of mutually exclusive MDS station applications filed prior to July 26, 1993, the date specified in the Commission's auction authority in the 1993 Budget Act. *Id.* For the reasons set forth in Section 3 below, we now determine to lottery these previously filed MDS applications.

3. Disposition of Previously Filed MDS Applications

87. Before the Commission conducts competitive bidding for the BTA service areas applied for under the revised procedures set forth herein, we must first process the remaining acceptable, mutually exclusive applications for MDS station licenses that were filed prior to July 26, 1993.⁵⁶ Under the procedures in effect prior to the enactment of competitive bidding authority in the 1993 Budget Act, these mutually exclusive MDS applications were to have been lotteried. In September 1993, the Commission tentatively concluded to lottery rather than auction pre-July 26, 1993 MDS applications. *See Competitive Bidding Notice* at 7661. In reaching this decision, the Commission first noted that these applications had already incurred substantial delays. The Commission then tentatively decided to eschew auctions in favor of lotteries for pending MDS applications to avoid "further delay" in granting MDS station licenses and providing service to the public during the time it would take for the Commission to promulgate competitive bidding rules. *Id.*⁵⁷ Subsequently, in the *Second Report and Order*, the Commission concluded that new initial applications in MDS would be eligible for competitive bidding, but did not resolve the question of whether to employ lotteries or auctions to dispose of the previously

⁵⁶ Once we complete our processing, we expect that this group of previously filed, acceptable MDS station applications will likely be quite small, consisting of approximately 100 mutually exclusive applications for five rural locations. The applications for these five locations have been pending since 1991.

⁵⁷ We note that commenters supported the Commission's tentative conclusion to lottery previously filed MDS applications. *See, e.g.*, Comments of JAP Telecom Systems, Inc. at 7 and Comments of MW TV, Inc. at 2-3, filed in response to *Competitive Bidding Notice*.

filed MDS applications. *Second Report and Order* at 2359. Thus, due to processing delays and further delays resulting from the consideration of issues raised in the Budget Act regarding competitive bidding, this group of previously filed MDS applications, through no fault of the applicants themselves, has never been lotteried.

88. The 1993 Budget Act empowers the Commission to either auction or lottery these previously filed MDS applications.⁵⁸ Consistent with the statute, our tentative conclusion in the *Competitive Bidding Notice*, and Commission precedent,⁵⁹ we now exercise our discretion to lottery this group of remaining previously filed, mutually exclusive MDS applications. By employing lotteries for pre-July 26, 1993 MDS applications, and by holding auctions for initial applications accepted for filing after that date, we adopt a straightforward approach that is easy to apply, fair to the applicants and serves the public interest.

89. As previously noted by the Commission, the Budget Act's legislative history reflects Congress' recognition that equitable considerations and administrative costs may justify the use of lotteries for those applicants who, in reliance on the existing lottery procedures, had filed applications prior to July 26, 1993. *See Cellular Unserved Order* at 7391. In examining the equities and administrative costs at stake here, and based on the record before us, we believe that the public interest would be served by using a lottery to dispose of the relatively few remaining previously filed MDS applications for the handful of locations at issue. Indeed, we believe this situation presents facts that are precisely the type that warranted the grant of discretion to the Commission on this point. Specifically, with regard to equitable considerations, we note that most of these MDS applications on file have been pending for over four years due to the aforementioned processing delays, which were not the fault of the applicants.⁶⁰ Particularly given this lengthy delay, we believe it would be unfair to require these previously filed applicants to refile their applications and participate in an auction for BTA service areas, as they submitted their applications with the expectation of participating in a lottery for a site-specific conditional station license. Our decision will ensure that these pending applications will be processed under the rules in effect at the time the applications were filed. It will also result in similar treatment for MDS applications filed within the same general time period. Those few applications that remain pending due to administrative delay will be processed in a manner similar to other MDS applicants that filed prior to July 26, 1993, but were able to have their applications processed and

⁵⁸ *See* 47 U.S.C. §§ 309(i) & (j); Budget Act, Pub. L. No. 103-66, § 6002(e) (Special Rule), 107 Stat. 312, 397 (1993).

⁵⁹ *See Memorandum Opinion and Order* in PP Docket No. 93-253, 9 FCC Rcd 7387 (1994) (*Cellular Unserved Order*) (determining to lottery previously filed applications for cellular unserved areas).

⁶⁰ This four year period that these previously filed MDS applications have been pending is considerably longer than the one year period that the cellular unserved applications had been on file before the Commission determined to lottery those applications.

conditional station licenses granted under the lottery procedures then in effect.⁶¹

90. Moreover, if the Commission were to require the previously filed MDS applicants to participate in an auction, it would be necessary to allow the applicants to submit the information required by the competitive bidding rules set forth herein. In contrast, a lottery would require no further submissions by the applicants, and could be conducted almost immediately, unlike an auction, which likely could not be held until the end of this year. Furthermore, in fairness to the previously filed applicants, those who indicate no desire to participate in an auction may be entitled to a refund of their application fees. Given the expected low commercial value of the MDS channels in the small number of rural locations at issue here,⁶² we feel that these administrative costs associated with conducting an auction for the approximately 100 previously filed applications would not be justified. *See Cellular Unserved Order* at 7391-7392. In summary, we believe that it would be inequitable and administratively burdensome to require applicants for MDS station licenses, who filed their applications over four years ago in reliance upon the lottery procedures then in effect, to participate in an MDS auction.

91. We also believe that any concern that many of these previously filed MDS applications at issue were prepared and filed by the same entities on behalf of the individual applicants "does not, by itself, justify the use of auctions in these circumstances." *Id.* at 7391. There is no evidence before us that these individual applicants, if awarded an MDS conditional station license by lottery, would not construct and operate an MDS station. These applicants did expend the time and the funds required to have their MDS station applications prepared and filed, and we have no evidence, on the record before us, to conclude that they will fail to construct an MDS station and provide service to the public. *See, e.g.,* Comments of MW TV, Inc. filed in response to *Competitive Bidding Notice* at 2 (stating that it would be "terribly inequitable" to force MW TV into a "bidding process to secure [MDS] authorizations for which it has already

⁶¹ Likewise, the winning applicants for the small number of lotteries held pursuant to this decision will receive the benefits of the expanded protected service area definition for site-specific stations that we adopt today in a companion item. *See Second Order on Reconsideration*. Thus, the approximately five lottery winners of site-specific conditional station licenses will be afforded treatment similar to other applicants who filed applications for site-specific MDS licenses prior to July 26, 1993, but who managed to avoid administrative delay and to have their applications processed and conditional licenses granted.

⁶² As we note in our discussion of the treatment of designated entities (*see infra* Section 7), for various reasons unique to MDS we anticipate that the BTA service areas will be auctioned for relatively modest amounts under our prospective licensing regime. It seems reasonable to assume that the small number of rural, site-specific MDS conditional station licenses at issue here would draw even less money at auction than the relatively modest amounts we anticipate for the larger geographic areas that will be auctioned in the future.

expended a substantial amount of funds").⁶³

92. Moreover, dismissal of these previously filed applications without prejudice to participate in a future BTA auction -- on the basis of a theory that the service for which the applicants previously applied either has changed significantly or no longer exists -- presents several potential drawbacks. Significantly, dismissal of these pending applications likely would engender reconsideration proceedings at the Commission and legal challenges in the courts. Such administrative and judicial delays could further postpone granting MDS licenses and providing service to the public, contrary to the public interest. In addition, while we are changing the conditions under which MDS service may be provided in the future, such as moving to larger geographic area authorizations and expanded service area protection, we are not fundamentally changing the nature of the service. Licensees still will be providing wireless cable service to subscribers, albeit under altered conditions designed to make the service more competitive with cable television. Therefore, on the basis of this record, and considering the equitable and administrative factors identified above, we conclude, as we did in the *Cellular Unserved Order*, that the use of a lottery, rather than competitive bidding, to award MDS conditional station licenses to the remaining previously filed applicants would best serve the public interest.

93. We also conclude that our balancing of the equitable and administrative factors identified above to determine whether a lottery or an auction of the previously filed MDS applications best serves the public interest is consistent with the specific terms of the 1993 Budget Act and existing relevant case law. We note that the factors set forth in Section 309(j)(3) pertaining to competitive bidding methodologies do not specifically govern the decision as to how to treat these previously filed MDS applications. The Section 309(j)(3) factors are incorporated into Section 309(j)(2) as part of the determination of whether a service "may" be auctioned. 47 U.S.C. § 309(j)(2) & (3). There is no doubt that we have the authority under the statute to use auctions to dispose of these previously filed applications for MDS station licenses, if using auctions satisfies the Section 309(j)(3) factors. Rather, the question before us here is not whether we *may* utilize an auction, but whether we *should*. For that determination, the relevant provision of law is Section 6002(e) of the Budget Act.

94. Section 6002(e), entitled "Special Rule," made an exception to the general requirement that, if a service met the standards for auctionability under Section 309(j)(2), the Commission could not use a lottery to award licenses for such service. Under the Section 6002(e) Special Rule, the Commission may use a lottery to award licenses even for an otherwise auctionable service for certain previously filed applications. In adopting this provision, Congress indicated that the exception would "permit" the Commission to use lotteries for certain IVDS and "several other licenses." H.R. Conf. Rep. No. 213, 103d Cong., 1st Sess. 498 (1993). Thus, even if the factors set forth in Section 309(j)(3) are met with regard to auctions, our discretion under

⁶³ We emphasize that the MDS station applicants prevailing in a lottery will be subject to a one year build-out requirement. See 47 C.F.R. § 21.43 (requiring completion of construction of MDS stations within twelve months from date of conditional station license grant).

the Section 6002(e) Special Rule to choose lotteries for other reasons is not diminished.

95. Congress did not, however, establish any standards for the exercise of the Commission's discretion under the Special Rule. As set forth in the *Cellular Unserved Order*, we continue to believe the proper approach is to balance the advantages and disadvantages of lotteries and auctions to determine which best serves the public interest on the facts before us. This approach is consistent with judicial precedent, which indicates that in determining whether to apply new rules to pending applicants, the Commission should balance the "ill effect" of the new rule on the pending applicants with the "mischief of frustrating the interests the rule promotes." *Maxcell Telecom Plus, Inc. v. FCC*, 815 F.2d 1551, 1554 (D.C. Cir. 1987). In certain circumstances, as in *Maxcell*, which involved switching from comparative hearings to lotteries in the cellular radio service, the benefits in broadly applying the Commission's new rules outweigh the harms to previously filed applicants. In the situation before us, however, as in the *Cellular Unserved Order*, we conclude, for the reasons discussed above, that the "ill effects" on the applicants that previously filed applications substantially outweigh any potential "mischief" that may be caused to the development of MDS in the small number of rural markets likely at issue. Accordingly, we conclude that the use of lotteries for these few pending applications best serves the public interest.

4. Competitive Bidding Design

96. In this *Report and Order*, we have attempted to design auction rules and procedures that are compatible with the unique characteristics of MDS and that meet the congressional objectives set forth in the Communications Act. See 47 U.S.C. § 309(j)(3). We believe that these objectives are embodied in two basic Commission policy goals: promoting economic growth and enhancing access to telecommunications service offerings for consumers, producers and new entrants. *Second Report and Order* at 2349-2350. In the paragraphs below, we implement competitive bidding for MDS, pursuant to Section 309(j) of the Communications Act and based on the record in this proceeding.⁶⁴ The methodology and procedures we will utilize in conducting

⁶⁴ Very few comments were filed in response to the *Competitive Bidding Notice* addressing either the applicability of competitive bidding to mutually exclusive MDS initial applications or the auction method to be employed for MDS. MW TV, Inc. and JMP Telecom Systems, Inc. commented solely on whether to apply competitive bidding rules to pending MDS applications. The Association was the only commenter to address the issue of MDS auction design.

In the *Notice*, the Commission invited further comment concerning MDS competitive bidding procedures. Of the twenty-two sets of comments submitted in response to this *Notice* and listed in Appendix A, comments relating to competitive bidding in particular were submitted by American Telecasting, CAI Wireless, ACS Enterprises, *et al.*, Dalager, Heartland, Mitchell, PacTel, Vega, Rural Wireless, U.S. Wireless and Association. Only eight commenters addressed MDS auction design specifically (American Telecasting, CAI Wireless, ACS Enterprises, *et al.*, Heartland, Mitchell, PacTel, Vega and Association). Reply comments addressing competitive bidding issues were submitted by American

MDS auctions are identified below, and additional details about specific competitive bidding procedures will be provided by public notice prior to the MDS auction.

a. General Competitive Bidding Designs

97. The *Second Report and Order* established the criteria to be considered in selecting the auction methodology for each auctionable service. We generally concluded that awarding licenses to those parties that value them most highly will best advance congressional policy goals. *Id.* at 2360. We also indicated that, because a bidder's ability to introduce valuable new services and to deploy them rapidly, intensively and efficiently increases the value of the license to that bidder, an auction design that awards licenses to those bidders who are willing to pay the highest bid tends to promote the development and deployment of new services and the efficient and intensive use of the spectrum. *Id.* at 2349-2350.

98. With regard to auction methodologies specifically, the Commission previously determined that: (1) licenses with strong interdependencies should be auctioned simultaneously;⁶⁵ (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. *Second Report and Order* at 2360. We also found that simultaneous multiple round bidding facilitates the efficient aggregation of licenses across spectrum bands and geographic areas, and, because of the superior information and flexibility this bidding methodology provides, is likely to yield greater revenues than other auction designs. Thus, we concluded in the *Second Report and Order* that the use of simultaneous multiple round bidding would generally be preferred. *Id.* at 2366.

99. We also recognized in the *Second Report and Order* that simultaneous multiple round bidding may appear more complex to bidders and could be more difficult and expensive to implement than other auction methods. *Id.* at 2364. We have, however, in the past year gained considerable experience in conducting simultaneous multiple round bidding. This competitive bidding method has been utilized in several narrowband and broadband PCS auctions,⁶⁶ and has

Telecasting, ACS Enterprises, *et al.*, Telephone Cooperative, Rural Wireless, CAI Wireless and Association.

⁶⁵ Licenses are interdependent when the value of a license to the bidder depends on the other licenses that the bidder acquires. *Second Report and Order* at 2361. Licenses may be interdependent because they are substitutes or because they are complements. *Id.* at 2364.

⁶⁶ The Commission has also recently proposed to utilize simultaneous multiple round bidding for both the 800 and 900 MHz Specialized Mobile Radio services. *Further Notice of Proposed Rule Making* in PR Docket No. 93-144 and PP Docket No. 93-253, FCC 94-271 (released Nov.

proved to be an efficient and effective way to conduct spectrum auctions. In addition, the cost to the Commission of conducting simultaneous multiple round bidding has decreased considerably since the initial simultaneous auctions because the computer software used in these auctions has now been developed. We have also recently initiated procedures permitting remote bidding from personal computers throughout the country. Consequently, bidders may now participate in simultaneous multiple round auctions in a variety of ways -- on site, by personal computer using remote bidding software, or via telephone.

b. MDS Competitive Bidding Design

100. Given our growing and successful experience with this auction design, we conclude that the generally favored method of simultaneous multiple round bidding is appropriate for MDS. We accordingly adopt this method to auction the BTA service areas.

101. In the *Notice*, we had tentatively concluded that simultaneous multiple round bidding was less appropriate for MDS than other auction methods primarily because the "value of and interdependence between" the geographic service areas might not be "sufficiently high to justify the use" of the generally preferred auction method. *Notice* at 7678. After further consideration, and based upon our continuing successful experience with simultaneous multiple round bidding, we now conclude that simultaneous multiple round bidding is in fact appropriate for MDS.

102. With regard to the expected value of the BTA service areas at auction, we realize that some areas -- particularly those with sparse populations -- may be auctioned for relatively modest amounts.⁶⁷ The value of any BTA service area at auction will, however, vary, depending in large part upon the population of and the amount of usable spectrum in that area.⁶⁸ Heavily populated BTA service areas may therefore attract more substantial sums, depending on the availability of spectrum within such areas. *See* Comments of PacTel at 3 (noting that "areas with

4, 1994); *Second Report and Order and Second Further Notice of Proposed Rulemaking* in PR Docket No. 89-553, PP Docket No. 93-253, and GN Docket No. 93-252, FCC 95-159 (released April 17, 1995).

⁶⁷ *See, e.g.*, Comments of Vega at 18; Association at 43; American Telecasting at 5-7; ACS Enterprises, *et al.* at 17 (asserting that MDS channels are low valued).

⁶⁸ *See* Comments of CAI Wireless at 9 (population of the relevant area, availability of ITFS and MDS channels, and bidder company business strategies "will substantially impact the valuation of 'area licenses'"). Wireless cable valuations, whether of companies, systems or channels, have generally been done on a population basis. *See, e.g.*, Gerard Klauer Mattison & Co., Inc., *The Wireless Cable Industry: Summary of 1994 and Outlook for 1995* (Dec. 22, 1994) at 3; Singer, *Wireless Values: Wall Street Eyes Management and Spectrum, Private Cable and Wireless Cable* (Nov. 1994) at 21; Paul Kagan Associates, Inc., *Wireless Cable Investor* (Nov. 30, 1994) at 7.

the largest populations should be of significant value"). Given the substantially decreased costs associated with implementing simultaneous multiple round bidding, we believe that BTA service area values are sufficient to justify the use of this auction method. We must consequently disagree with the commenters who state that simultaneous multiple round bidding is inappropriate for MDS because this auction method is overly expensive, particularly when compared to an open outcry method, and administratively complex for the Commission. *See* Comments of ACS Enterprises, *et al.* at 17-19; Vega at 18. *See also* Comments of Association at 43-44 (supporting use of open outcry method on grounds of cost and complexity, if national filing window approach is adopted).⁶⁹

103. With regard to the question of interdependence, we believe that the BTA service area authorizations to be auctioned possess a degree of interdependence. As explained in the *Notice*, "[t]here appears to be some geographic interdependence due to coordination of interference at the borders." *Id.* at 7678. Indeed, because we have selected a filing approach based on predetermined geographic areas, rather than a national filing window, we emphasize that authorizations for adjacent BTA service areas will be interdependent, as common ownership of such areas will reduce problems of controlling interference at the borders of the BTAs. *See Second Report and Order* at 2364; *See also* Comments of Association at 37 (adjacent geographic markets may be interdependent). Interdependence between the BTA authorizations may also arise from economies of scale achieved by wireless cable operators spreading of fixed costs over more units of output. *See Second Report and Order* at 2364; *See also* Comments of PacTel at 3 (there may be interdependencies "due to the desire to achieve significant economies of scale"). We accordingly conclude that there is some degree of interdependence between BTA authorizations and that this interdependence may be significant for geographically contiguous BTAs. *See* Comments of PacTel at 3 (noting "some significant interdependence" between "contiguous markets"). Thus, the adoption of simultaneous multiple round bidding should result in the most efficient award of these BTA authorizations. *See Second Report and Order* at 2363. In particular, we believe that potential bidders that operate (or are planning to operate) MDS systems in geographically adjacent BTAs and/or in several regions of the country will be able to make more informed bidding decisions in a simultaneous auction where all BTA service areas may be bid upon at the same time. *See* Comments of Association at 37 (if Commission selects filing approach based on defined geographic areas, Commission should "permit simultaneous multi-round bidding . . . that permits an applicant to bid for licenses for adjacent geographic markets

⁶⁹ Other commenters, while not explicitly asserting that simultaneous multiple round bidding is overly complex and expensive for the Commission, nonetheless support the use of oral bidding for MDS on the grounds that an open outcry auction would be simple and economic (*see* Comments of CAI Wireless at 9) or efficient (*see* Comments of Heartland at 9-10; American Telecasting at 25). We do not dispute that oral bidding can be a cost-effective and efficient method of auctioning spectrum. However, we believe that, for the reasons described above, simultaneous multiple round bidding will be more cost effective and efficient for MDS than oral bidding, particularly given the interdependencies that exist between authorizations for adjacent BTA service areas.

that may be interdependent.").

104. We must, given the sources noted above from which interdependence may arise, disagree with those commenters who indicate that there is little or no interdependence between MDS channels and who oppose simultaneous multiple round bidding on that basis. *See* Comments of American Telecasting at 26; Heartland at 8-9; Vega at 17. Indeed, we note that some commenters acknowledge that their opposition to simultaneous bidding is based, not on firm evidence that BTA authorizations lack interdependence, but rather on their preference for a national filing window approach to MDS licensing.⁷⁰ However, because we are adopting a filing approach based on predetermined geographic areas, the authorizations for adjacent BTA service areas will, as discussed above, be interdependent. *See* Comments of Association at 37; PacTel at 3. While it may be difficult to determine the exact degree of interdependence between the BTA authorizations to be auctioned, as evidenced by the disagreement among the commenters,⁷¹ we believe, for the reasons stated previously, that there is some interdependence between them and that simultaneous multiple round bidding will allow bidders to best take account of such interdependencies. Because the Commission has gained substantial experience with simultaneous bidding, which has declined significantly in cost, we conclude that simultaneous multiple round bidding is appropriate for MDS, as this bidding method will most efficiently award authorizations for those service areas (particularly contiguous BTAs) which are interdependent. *See Second Report and Order* at 2363-2364.

105. In addition to issues of cost and interdependence, other considerations support the use of simultaneous multiple round bidding for MDS. Compared with other bidding mechanisms, including open outcry and sealed bidding, simultaneous multiple round bidding will generate the most information about the value of BTA service areas during the course of the auction. Thus, it is the most likely auction method to award BTA authorizations to the bidders who value them most highly. *See* Comments of PacTel at 3 (simultaneous multiple round bidding provides bidders with equal information and allows bidding to continue until highest value bidder is identified). We also note that an auction method awarding BTA authorizations to the parties who value them most highly should result in the award of authorizations to *bona fide* wireless cable operators, rather than to speculators, because *bona fide* operators will likely value authorizations more highly than, and will therefore outbid, speculators, who may be reluctant to pay up front the

⁷⁰ *See* Comments of Vega at 17 (since we support national filing window, an interdependence issue is virtually eliminated); Association at 43 (under national filing window approach, simultaneous multiple round auctions are unnecessary since there will be little interdependence between different licenses).

⁷¹ *See, e.g.*, Comments of PacTel at 3 ("there may be some significant interdependence . . . in contiguous markets"); Comments of CAI Wireless at 9 ("interdependence between geographical areas . . . will vary widely"); Comments of ACS Enterprises, *et al.* at 18 ("MDS channels to be auctioned would not have a high degree of interdependence").

amounts necessary to obtain authorizations through competitive bidding.⁷² Moreover, given the uncertainty as to the value of the MDS spectrum,⁷³ the information generated by simultaneous multiple round bidding should prove particularly valuable by giving bidders more flexibility to pursue back-up strategies.⁷⁴ Because of the superior information and flexibility it provides, this auction method should also yield more revenue for the MDS spectrum than other auction designs, including open outcry.⁷⁵ Although the raising of revenue is not our dominant concern, we note that Congress directed the Commission, in designing auction methodologies, to promote "recovery for the public of a portion of the value of the public spectrum resource." 47 U.S.C. § 309(j)(3)(C).⁷⁶ Finally, the employment of simultaneous multiple round bidding for MDS, rather than open outcry, will eliminate the need for the Commission to select the order in which the BTA service areas will be auctioned. *See Second Report and Order* at 2360, 2363, 2366.

⁷² Sealed bidding is not generally favored by commenters expressing any opinion on auction design, and is not supported by the Commission for MDS, because this bidding method will generate no information about the value of the BTA service areas during the course of an auction, and thus may not award BTA authorizations to the parties who value them the most. *See Second Report and Order* at 2362; Comments of Association at 43-44; Heartland at 9-10; ACS Enterprises, *et al.* at 18-19. The only commenter recommending sealed bidding presents no substantive arguments to support its position and fails to address the drawbacks inherent in an auction method that provides no information about spectrum value to bidders. *See* Comments of Mitchell at 4.

⁷³ *See* Comments of Association at 43-44; ACS Enterprises, *et al.* at 18-19.

⁷⁴ Commenters recognize the importance of selecting an auction design allowing bidders to pursue back-up strategies. *See* Comments of Association at 44 (opposing sealed bidding because it provides no opportunity to pursue back-up strategies).

⁷⁵ A simultaneous auction for MDS will tend to raise more revenue than a sequential oral auction for two reasons. First, it will increase the value of the BTA service areas by facilitating efficient aggregation. Second, because it will provide more information about the value of the BTA service areas, it will reduce the propensity of sophisticated bidders to bid cautiously to avoid the "winner's curse"-- the tendency for the winner to be the bidder who most overestimates the value of the item up for bid.

⁷⁶ We agree with commenters to the extent they suggest that the Commission's primary mandate is not to adopt an application procedure and auction design that maximize revenue. *See* Reply Comments of CAI Wireless at 6-7; Comments of Association at 29-30; Comments of American Telecasting at 4-5. Given the clear language of Section 309(j)(3)(C), we do, however, believe that the Commission has a duty to consider the recovery of the value of the MDS spectrum as a factor in its adoption of an appropriate MDS auction design.

106. We conclude that these numerous advantages for MDS of simultaneous multiple round bidding outweigh any remaining disadvantages cited by some commenters. In addition to the objections, as described above, offered against simultaneous bidding based on the assumed high cost and administrative burden for the Commission and the perceived lack of interdependence, some commenters also assert that simultaneous multiple round bidding is complex and expensive for bidders and favor open outcry auctions in part because of their perceived simplicity and relatively low cost for bidders. *See* Comments of Vega at 18; ACS Enterprises, *et al.* at 17. *See also* Comments of Association at 43 (supporting open outcry as less expensive bidding method if national filing window approach is selected).

107. The simultaneous multiple round auction design adopted herein includes several features that should allay the concerns expressed by these commenters as to the perceived burdensome nature of simultaneous bidding. We expect, for example, to have bidding rounds of shorter duration than in other simultaneous multiple round auctions, such as broadband PCS. This measure should shorten the MDS auction substantially so that the length of the auction should not prove burdensome to bidders. In addition, the burden on bidders will be reduced by the variety of methods through which they may participate in the MDS simultaneous multiple round auction. Bidders will be able to submit bids on site, via personal computers using remote bidding software, or via telephone;⁷⁷ however, given the space limitations for on site bidding and the uncertainty as to the exact number of prospective bidders, the Commission reserves the right to have only remote bidding -- by personal computer and by telephone -- for the MDS auction. Thus, the expense to the bidders of participating in a simultaneous multiple round auction should be less than in an open outcry auction, where bidders (and/or their representative(s)) would need to travel to and remain in Washington, D.C. for the duration of the auction. Finally, the Commission will hold a seminar for prospective bidders to acquaint them with this bidding design and all alternative bid submission methods.

108. Given the numerous advantages of the generally preferred auction method of simultaneous multiple round bidding, we believe that this methodology will best serve for conducting MDS auctions. We note, however, that the presence of incumbents in the BTA service areas could affect the relative desirability and value of BTA authorizations in ways we do not anticipate. In the event that the filings of short-form applications indicate that the BTA authorizations have relatively little interdependence and lower than expected value, we delegate authority to the Mass Media Bureau and the Wireless Telecommunications Bureau to reconsider the issue of whether another auction design would be more appropriate.

⁷⁷ Telephonic bidding should, in particular, be a simple and inexpensive method for bidders to submit bids. If submitting bids by telephone, bidders may utilize the Internet to learn of the round-by-round results of the auction; on-line services such as Compuserve provide Internet access at low cost. Bidders may also, at negligible cost, utilize a bulletin board service, accessible by long distance telephone, from which auction results can be downloaded to a personal computer.

c. MDS Bidding Procedures

109. There will be one authorization offered in each BTA and the BTA authorizations will be awarded by simultaneous multiple round bidding. All BTA service areas will be auctioned at the same time. Bids will be accepted at the same time on all BTA service areas in each round of the auction. High bid amounts will be posted after the end of the bid submission period in each round of bidding. With modifications to take account of the unique characteristics of MDS and to reduce length, MDS auctions will follow the general bidding procedures we have used to date to conduct the narrowband and broadband PCS auctions.

110. ***Bid Increments.*** In using simultaneous multiple round bidding to award the BTA authorizations, it is important to specify minimum bid increments. 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 stopping rule. In that case, all markets will remain open until there is no bidding on any market, and a delay in closing the bidding on one market will delay the closing of all markets. *Second Report and Order* at 2369.

111. Because we plan to use simultaneous multiple round bidding with a simultaneous stopping rule to award BTA authorizations, we believe that it is necessary to impose a minimum bid increment to ensure that the MDS auction concludes within a reasonable period of time. As we recognized in the *Second Report and Order*, it is important to establish the amount of the minimum bid increment as the greater of a percentage and fixed dollar amount. This will ensure a timely completion of the auction even if bidding begins at a very low dollar amount. *Id.* at 2369. Accordingly, we will impose a minimum bid increment of some percentage of the high bid from the previous round or a fixed dollar amount, whichever is greater, in MDS auctions where simultaneous multiple round bidding is used. We will announce by public notice prior to the MDS auction the specific bid increment that generally will be utilized.

112. The Commission will also retain the flexibility to vary the minimum bid increment during the course of the MDS auction by announcement. We may, for example, begin the MDS auction with a sizable minimum bid increment and reduce the bid increment as the auction progresses. Starting with a sizable minimum bid increment will 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 valuation as the auction nears a close, increasing both efficiency and auction revenues. Small bid increments also reduce the chances of ties. Where a tie occurs, the high bidder will be determined by the order in which the bids were received by the Commission. *See Second Report and Order* at 2369. Adjustments in the bid increment may be based in part on the level of bidding activity.

113. **Duration of Bidding Rounds.** To gain the full benefit of the information generated by a simultaneous multiple round auction, bidders will need some time between bidding rounds to evaluate back-up strategies and consult with their principals. Prior to the MDS auction, we will announce by public notice the duration of bidding rounds for the auction. We also reserve the discretion during the course of the auction to vary, by public notice or announcement, the duration of bidding rounds or the interval at which bids are accepted. We expect to allow more time for the initial rounds in the MDS auction, while bidders familiarize themselves with the bidding process, and then increase the frequency of rounds as the auction progresses. Thus, we should be able to move the auction toward closure in a reasonable period of time.⁷⁸

114. **Activity Rule.** To ensure that a simultaneous MDS auction with a simultaneous stopping rule closes 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 markets 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 in the *Second Report and Order*, this could lead to very long auctions. *See id.* at 2371. Delaying serious bidding until late in an auction also reduces the information content of prices during the course of the auction. Without an activity rule, bidders cannot know whether a low level of bidding on a particular market means that the market's 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. When bidding closes on a market-by-market basis, an activity rule is less important. This is because failure to bid on a given market in any round may result in loss of the opportunity to bid on that market, if that round turns out to be the last one for that market.

115. In the *Second Report and Order*, we adopted the three-stage Milgrom-Wilson activity rule as our preferred activity rule when a simultaneous stopping rule is used. *Id.* at 2372. *See also Fifth Report and Order* at 5553-5556. We plan to employ this activity rule in the MDS auction as well. Under the Milgrom-Wilson activity rule, bidders are required to declare their maximum eligibility in advance of the auction and make an upfront payment proportional to that eligibility level. In the PCS auctions, activity and eligibility are defined in terms of "MHz-pops." *See, e.g., Fifth Report and Order* at 5553-5554. Specifically, the number of MHz-pops associated with a PCS license is calculated by multiplying the population of the license service area by the amount of spectrum authorized by the license. We chose MHz-pops because we anticipated that PCS license values would be closely related to the number of MHz-pops in the license service areas. This choice ensures that the measure of bidding activity used in the activity rule is highly correlated with license values. In the MDS auction, bidding activity and eligibility will be defined in terms of dollar values. The Commission will assign an "activity unit" value to

⁷⁸ Given our estimates of the value of the BTA service areas and the likely number of bidders, we expect to hold more frequent bidding rounds in the MDS auction than we have in certain other simultaneous multiple round auctions, particularly broadband PCS. *See Second Report and Order* at 2368.

each BTA service area for the purpose of measuring bidding activity and eligibility. Specifically, the activity unit value for a BTA service area will be equal to the upfront payment associated with that BTA service area. A bidder's maximum eligibility (which is also the bidder's eligibility for the first round of the auction) will be equal to its total upfront payments.⁷⁹ Because the upfront payments will be related to the value of the BTA service areas (*see infra* ¶ 136), activity units will fulfill the same function that MHz-pops have fulfilled in the previous PCS auctions.

116. The Milgrom-Wilson activity rule provides that a bidder's minimum activity level, measured as a fraction of eligibility in the current round, will increase during the auction. A bidder will be considered "active" on a BTA service area in the current round if it is either the high bidder at the end of the bid withdrawal period in the previous round, or if it submits a bid in the current round which meets or exceeds the minimum valid bid (*i.e.*, a bid that exceeds the high bid in the previous round by at least the minimum bid increment). A bidder's activity level in a round is the sum of the activity units associated with the BTA service areas on which the bidder is active.

117. The minimum required bidding activity levels for each stage of the MDS auction are as follows. In each round of Stage One of the auction, a bidder who wishes to maintain its current eligibility is required to be active on BTA service areas encompassing at least fifty percent of the activity units for which it is currently eligible. Failure to maintain the requisite activity level will result in a reduction in the amount of activity units associated with BTAs upon which a bidder will be eligible to be active in the next round of bidding (unless an activity rule waiver, as described below, is used). During the first stage, if activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by two (2/1). Eligibility for each applicant in the first round of Stage One is determined by the amount of the upfront payment received and the BTAs identified in the applicant's short-form application. In each round of Stage Two, a bidder who wishes to maintain its current eligibility is required to be active on BTA service areas encompassing at least eighty percent of the activity units for which it is eligible in that particular round. During the second stage, if activity is below the required minimum level, eligibility in the next round will be calculated by multiplying the current round activity by five-fourths (5/4). In each round of Stage Three, a bidder who wishes to maintain its current eligibility is required to be active on BTA service areas encompassing ninety-five percent of the activity units for which it is eligible in that particular round. In the final stage, if activity in the current round is below ninety-five percent of current eligibility, eligibility in the next round will be calculated by multiplying the current round activity by twenty-nineteenths (20/19).

118. In the PCS auctions, we specified transition guidelines for deciding when the auction would move from Stage One to Stage Two to Stage Three. Those guidelines are based on the "auction activity level," the sum of the MHz-pops of PCS licenses for which the high bid

⁷⁹ As explained in ¶ 138, however, a small business bidder eligible for a reduction in its upfront payment requirement will not have the number of its activity units decreased as a result of submitting a reduced upfront payment.

increased in the current round as a percentage of the total MHz-pops of all licenses offered in the auction. *See, e.g., Fifth Report and Order at 5555.* However, we also retained the discretion to move the PCS auctions from one stage to another at a rate different from that set out in the guidelines. *See Fourth Memorandum Opinion and Order in PP Docket No. 93-253, 9 FCC Rcd 6858, 6860 (1994).*

119. For the MDS auction, we shall employ an analogous procedure. The "auction activity level" for a given round of the MDS auction will be defined as the sum of the activity units associated with the BTA service areas for which the high bid increases in that round, divided by the sum of activity units associated with all of the BTAs being auctioned. The following transition guidelines apply. The MDS auction will begin in Stage One and move from Stage One to Stage Two when the auction activity level is below ten percent for three consecutive rounds in Stage One. The auction will move from Stage Two to Stage Three when the auction activity level is below five percent for three consecutive rounds in Stage Two. In no case can the auction revert to an earlier stage. The Commission retains the discretion to determine and announce during the course of an MDS auction when, and if, to move from one auction stage to the next, based on a variety of measures of bidder activity, including, but not limited to, the auction activity level as defined above, the percentage of BTA service areas on which there are new bids, the percentage of activity units on which there are new bids, the number of new bids, and the percentage increase in revenue.

120. To avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission in a particular round, we will provide bidders with a limited number of waivers of the above-described activity rule. We believe that some waiver procedure is needed because the Commission does not wish to reduce a bidder's eligibility due to an accidental act or circumstances not under the bidder's control. *See Second Report and Order at 2372.*

121. In MDS auctions, bidders will be provided five activity rule waivers that may be used in any round during the course of the auction. *See Second Report and Order at 2373.* If a bidder's activity level is below the required activity level, a waiver will automatically be applied. That is, if a bidder fails to submit a bid in a round, and its activity level from any standing high bids (high bids at the end of the bid withdrawal period in the previous round) falls below its required activity level, a waiver will be automatically applied. A waiver will preserve current eligibility in the next round. An activity rule waiver applies to an entire round of bidding and not to a particular BTA service area. Bidders will be afforded an opportunity to override the automatic waiver mechanism when they place a bid if they intentionally wish to reduce their bidding eligibility and do not want to use a waiver to retain their eligibility at its current level. *See Fourth Memorandum Opinion and Order in PP Docket No. 93-253, 9 FCC Rcd 6858, 6861 (1994).* If a bidder overrides the automatic waiver mechanism, its eligibility will be permanently reduced (according to the formulas specified in ¶ 117), and it will not be permitted to regain its bidding eligibility from a previous round. An automatic waiver invoked in a round in which there are no new valid bids will not keep the auction open. Bidders will have the option of pro-actively

entering an activity rule waiver during the bid submission period.⁸⁰ If a bidder submits a proactive waiver in a round in which no other bidding activity occurs, the auction will remain open.

122. The Commission retains the discretion to issue additional waivers during the course of an auction for circumstances beyond a bidder's control. We also retain the flexibility to adjust prior to an auction the number of waivers permitted, or to institute a rule that allows one waiver during a specified number of bidding rounds or during specified stages of the auction. *See Second Report and Order* at 2373. We will announce by public notice before the MDS auction the number of waivers that will be allowed in that particular auction.

123. As with other auctions, we reserve the right to impose for the MDS auction an activity rule less complex than the Milgrom-Wilson rule. *See Second Report and Order* at 2372; *Fifth Report and Order* at 5556. We will announce by public notice before the MDS auction the activity rule that will be employed in that particular auction.

124. **Stopping Rules.** We 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. *Id.* at 2369. In an MDS simultaneous multiple round auction, bidding could close separately on individual BTA service areas, simultaneously on all BTA service areas, or a hybrid approach could be used. Under an individual approach, bidding would close on each BTA service area after one round passed in which no new acceptable bids were submitted for that particular service area. With a simultaneous stopping rule, bidding would remain open on all BTA service areas until there was no new acceptable bid on any service area. This approach would have the advantage of providing bidders full flexibility to bid for any BTA service area as more information became available during the course of the MDS auction, but it could lead to a very long auction, unless an activity rule were imposed. *See id.* at 2370. A hybrid approach would combine the individual and the simultaneous approaches.⁸¹

125. For MDS auctions, we intend to utilize a simultaneous stopping rule, as we have successfully used in previous simultaneous multiple round auctions. Bidding will accordingly remain open on all BTA service areas until bidding stops on every BTA service area. The auction will close after one round passes in which no new valid bids or proactive waivers are submitted. The Commission retains the discretion, however, to keep the MDS auction open even if no new valid bids and no proactive waivers are submitted. In the event that the Commission exercises this

⁸⁰ Thus, a "proactive" waiver, as distinguished from the automatic waiver described above, is one requested by the bidder.

⁸¹ For example, in a hybrid approach, we could use a simultaneous stopping rule (along with an activity rule designed to expedite closure) for higher valued BTA service areas. For lower valued BTA service areas, where the loss from eliminating some back-up strategies would be less, bidding on BTAs could be allowed to close individually. *See Second Report and Order* at 2370.

discretion, the effect will be the same as if a bidder had submitted a proactive waiver.⁸² Since we are also imposing an activity rule (as discussed above), we believe allowing simultaneous closing for all BTA service areas will afford bidders flexibility to pursue back-up strategies without running the risk that bidders will refrain from bidding until the final rounds. We also believe that a simultaneous stopping rule will best enable bidders to take account of any interdependencies that exist between BTA authorizations (especially authorizations for adjacent areas) and will allow bidders to make the most informed bidding decisions. Thus, simultaneously closing bidding on BTA service areas will most likely award licenses to the bidders who value them most highly. *See Second Report and Order* at 2370.

126. Additionally, the Commission may also declare at any time after forty rounds that the MDS auction will end after a specified number of additional rounds. If the Commission invokes this stopping rule, it will accept bids in the final round(s) only for BTA service areas on which the high bid increased in at least one of the preceding three rounds. *See Second Report and Order* at 2370 n.106. Stopping the MDS auction after a specified number of additional rounds will ensure ultimate Commission control over the duration of the auction. *See id.* at 2370. Thus, the Commission will have the means to prevent bidders from continuing to bid on a few BTA service areas (or even a single service area) solely to delay the closing of bidding for all BTA service areas in an MDS auction with a simultaneous stopping rule. This will also ensure that the Commission can end the MDS auction if it determines that the benefits from ending the auction, and hence granting BTA authorizations more rapidly, exceed the possible efficiency loss from cutting off bidding on a few BTA service areas. 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 BTA authorization will not be awarded to the party that values it most highly.

127. If this fail-safe mechanism is used in an MDS auction, there are two reasons not to take bids on BTA service areas on which there has been no recent bidding. First, the fact that bidding on an individual BTA service area may close will provide an additional incentive to bid actively and thus speed the conclusion of the MDS auction. If bids are accepted on all BTA service areas in the final round(s) there is less risk to a bidder in holding back. Second, closing bidding on BTA service areas for which activity has ceased ensures high bidders for those service areas that they will not lose a BTA authorization without having an opportunity to make a counter-offer.⁸³ This reduces the uncertainty associated with aggregating BTA authorizations

⁸² This will help ensure that the MDS auction is completed within a reasonable period of time, because it will enable the Commission to utilize larger bid increments, which speed the pace of the auction, without risking premature closing of the auction. *See Memorandum Opinion and Order* in PP Docket No. 93-253, 9 FCC Rcd 7684, 7685 (1994).

⁸³ Either the MDS auction will close only when bidding ceases on all BTA service areas, 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 BTA service areas on which there have been no new bids

(such as those for adjacent BTAs) that may be worth more as a group than individually. If final bids are accepted on all BTA service areas, a high bidder on an aggregation of BTA service areas may unexpectedly lose a significant 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.

128. The Commission does not intend to exercise this option except in extreme circumstances, such as where the MDS auction is proceeding very slowly, there is minimal overall bidding activity, and it appears unlikely that the auction will close within a reasonable period of time. Before exercising this option, however, the Commission would first attempt to increase the pace of the auction by announcing that the auction will move into the next stage, where bidders would be required to maintain a higher level of bidding activity. Under these circumstances, the Commission may also first increase the number of bidding rounds per day and increase the amount of the minimum bid increments for those limited number of BTA service areas where there is still a high level of bidding activity.

129. Additionally, because of the large number of BTA service areas to be auctioned at once, we will retain the discretion either to use a hybrid stopping rule or to allow bidding to close individually for these service areas if, as we gain more experience with auctions, we determine that simultaneous stopping rules are too complex to implement for very large numbers of service areas. The specific stopping rule for ending bidding on the BTA service areas will be announced by public notice prior to the MDS auction.

5. Procedural and Payment Issues

a. Pre-Auction Application Procedures

130. The *Second Report and Order* established general rules and procedures for participating in auctions. Again, however, we noted that these might be modified on a service-specific basis. As described below, we have determined that we will follow for new MDS initial applications the procedural and payment rules established in the *Second Report and Order* and set forth at 47 C.F.R. Chapter I, Part 1, Subpart Q, with modifications to fit MDS. Certain procedural details will be supplied later by public notices. Our objective has been to design rules and procedures that will reduce administrative burdens and costs on bidders and the Commission, ensure that bidders and licensees are qualified and able to construct their systems, and minimize the potential for delay of service to the public. *See* 47 U.S.C. § 309(j)(3)(A) (in designing auction rules, Commission should seek to promote development and rapid deployment of products and services for public benefit, without administrative or judicial delays).

131. Before an MDS auction, the Commission, or, pursuant to delegated authority, the Mass Media Bureau, in conjunction with the Wireless Telecommunications Bureau, will release

in the previous three rounds, so no other bidder will have the opportunity to outbid the high bidder in a final round.

public notices concerning the auction. The public notices will specify the BTA service areas to be auctioned, the filing deadline for short-form applications, and the time, place, and method of competitive bidding to be used, as well as applicable bid submission and payment procedures.

132. Applicants will be required to submit short-form applications by the date specified by public notice. Applicants should file a short-form application identifying all BTA service areas specified by the public notice in which they are interested in bidding.⁸⁴ If the Commission receives only one application that is acceptable for filing for the same BTA service area and thus there is no mutual exclusivity,⁸⁵ the Commission will by public notice cancel the auction for this BTA service area and establish a date for the filing of either an initial long-form application for an MDS station license or, for a heavily encumbered BTA, a statement of intention with regard to the BTA.⁸⁶

133. To encourage maximum bidder participation, we will provide applicants whose short-form applications are substantially complete, but which contain minor errors or defects, with an opportunity to correct their applications prior to the auction. However, applicants will not be permitted to make any major modifications to their applications; for MDS, we classify all amendments to short-forms as major, except those to correct minor errors or defects, such as typographical errors, or those to reflect ownership changes or formation of bidding consortia specifically permitted under the anti-collusion rules set forth below. *See infra* ¶ 165. We note in particular that a change in control of an applicant or a change in the BTAs upon which an applicant wishes to bid will be regarded as a major amendment to the short-form application. In addition, applications that are not signed in any manner or form, including by electronic means, or that fail to make the requisite certifications will be dismissed and may not be resubmitted. *See Second Report and Order at 2377; 47 C.F.R. § 1.2105(b).*

134. After reviewing the short-form applications, the Commission will issue another public notice listing all applications containing minor defects, and applicants will be given an opportunity to cure and resubmit defective applications. On the date set for submission of corrected applications, applicants who on their own discover minor errors in their applications, such as typographical errors, also will be permitted to file corrected applications. Following a review of the corrected applications, the Commission will release another public notice

⁸⁴ As described in detail below, the short-form applications must also include an exhibit identifying any bidding consortia or other arrangements relating to the BTA service areas being auctioned. *See infra* ¶ 164.

⁸⁵ Absent mutually exclusive applications, the Commission is prohibited from conducting an auction. *See* 47 U.S.C. § 309(j)(1).

⁸⁶ *See infra* ¶¶ 150-154, for the procedures for filing either a long-form application for a station license or a statement of intention with regard to the BTA.

announcing the names of all applicants whose applications have been accepted for filing. Applicants identified in this public notice will then be required to submit the full amount of their upfront payment. *See Second Report and Order at 2377.*

b. Upfront Payments

135. In the generic auction rules, we described five types of payments: upfront payments, down payments, final payments, bid withdrawal payments, and default and disqualification payments. Given the history of speculators filing MDS applications, we believe a substantial upfront payment is needed for MDS auctions to discourage speculative bidding and increase the likelihood of applicants who intend to provide service to the public obtaining the remaining available MDS channels. Requiring a substantial upfront payment provides some degree of assurance that only serious, qualified bidders will participate and serves as a deterrent to the filing of speculative applications, which may delay the provision of service to the public. The upfront payments will also provide the Commission with a source of funds to satisfy any bid withdrawal or default and disqualification payments assessed. *See Second Report and Order at 2378-2379.* Therefore, we will require an upfront payment for the MDS auction.⁸⁷

136. We believe the upfront payment should bear a relation to the value of the BTA authorizations that a bidder hopes to be awarded. We accordingly delegate to the Mass Media Bureau and the Wireless Telecommunications Bureau the authority to determine an appropriate upfront payment for each BTA service area being auctioned, taking into account, at the Bureaus' discretion, such factors as the population and the approximate amount of usable spectrum in each BTA.⁸⁸ Bearing in mind the uncertainties associated with valuing the BTA authorizations, we expect that the Bureaus will follow the guidelines laid out in the *Second Report and Order* and establish upfront payments equal to around five percent of the expected amounts of winning bids for the various BTA service areas. *See id.* at 2378-2379. In no event will the upfront payment for any BTA service area be less than \$2500, the minimum suggested in the *Second Report and Order*, and we retain the flexibility for the Bureaus to modify this minimum if we find that a higher amount would better deter speculative filings. *Id.* at 2379.

137. Prior to the MDS auction, the Mass Media Bureau, in conjunction with the Wireless Telecommunications Bureau, will publish a public notice listing the upfront payment amounts corresponding to each BTA service area to be auctioned. The number of activity units associated with a BTA service area (*see* ¶ 115) equals the amount of the upfront payment for that BTA. A

⁸⁷ Commenters addressing this issue agree that upfront payments should be required for MDS to deter insincere or unqualified applicants. *See* Comments of Association at 51; Vega at 17-18; ACS Enterprises, *et al.* at 20-21.

⁸⁸ *See* Comments of Association at 51 (if Commission adopts filing approach for MDS based on predetermined geographic areas, formula based on population and megahertz in each service area is appropriate for determining upfront payments).

prospective bidder must submit an upfront payment equal to the largest combination of activity units on which the bidder anticipates being active in any single round. The combination of activity units on which a bidder is active in a round equals the sum of the activity units associated with the BTAs on which the bidder has submitted a bid, or on which the bidder is the standing high bidder. Although a bidder may file applications for every BTA service area being auctioned, the total upfront payment submitted by each applicant will determine the combinations of BTA service areas on which the applicant will actually be permitted to be active in any single round of bidding.⁸⁹

138. A prospective bidder in the MDS auction that claims status as a small business, as defined in ¶¶ 190-191, will be eligible for a twenty-five percent reduction in its upfront payment requirement. *See infra* ¶¶ 184-185 for a discussion of the reduced upfront payments measure. A small business eligible for this reduction in its upfront payment will not have the number of its activity units decreased as a result of submitting a reduced upfront payment.⁹⁰

139. We do not believe that a very low upfront payment, as one commenter proposes, is sufficient to discourage speculative or insincere bidding. *See* Comments of Vega at 18 (recommending \$500 upfront payment per every five market or channel groups). We also feel that a flat fee unrelated to the value of the individual BTA service areas, as another commenter suggests, is inappropriate. *See* ACS Enterprises, *et al.* at 20 (supporting upfront payment of \$2000 per channel). Given the Commission's experience with defaults by some winning bidders in the July 1994 IVDS auction, we find that an upfront payment which reflects the value of the BTA service areas being auctioned is preferable to a low flat fee unrelated to BTA service area values.

⁸⁹ Consider, for example, an applicant that submits a \$100,000 total upfront payment. As explained above at ¶ 115, the maximum number of activity units for that applicant is 100,000. In any single round, the applicant could be active on two BTA service areas with 50,000 activity units each, on five BTAs with 20,000 activity units each, on ten BTAs with 10,000 activity units each, or on any combination of BTA service areas for which the sum of associated activity units totals 100,000 or less. As set forth above, a bidder is "active" on a BTA service area if it is either the high bidder on that BTA from the previous round (at the end of the bid withdrawal period), or if it submits a bid on that BTA in the current round which exceeds the previous round's high bid by at least the minimum bid increment. *See supra* ¶ 116. Thus, a bidder who begins the auction eligible to bid (based on the magnitude of its upfront payment) on BTA service areas associated with 100,000 activity units and who, in the first round, is the high bidder on a BTA service area associated with 50,000 activity units, may only, in the second round, submit new bids on a combination of BTAs associated with 50,000 or fewer activity units.

⁹⁰ For example, if a small business applicant is interested in bidding on a BTA with an upfront payment of \$100,000, it would be required, under the reduced upfront payment measure, to submit only \$75,000 to qualify to bid on that BTA. This applicant would still, however, receive 100,000 activity units -- the number of activity units equivalent to the full upfront payment amount associated with that BTA.

See Comments of Association at 52 (stating that upfront payments in excess of \$2500 minimum established in *Second Report and Order* and employed in IVDS auction are needed to assure seriousness of MDS applicants and to cover defaults by winning MDS bidders).

140. Applicants identified by public notice as those whose applications have been accepted for filing will be required to submit their upfront payments to the Commission's lock-box bank by the date specified in the public notice, which generally will be no later than fourteen days before the scheduled auction. Upfront payments may 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. All payments, including upfront, down and final payments, should be accompanied by FCC Form 159 (remittance advice form). 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 in the MDS auction. Any applicant who fails to submit a sufficient upfront payment to qualify it to bid on any BTA service area being auctioned will not be identified on this public notice as a qualified bidder, will be prohibited from bidding in the MDS auction, and its application will be dismissed. See *Second Report and Order* at 2377; 47 C.F.R. § 1.2106.

141. The upfront payments submitted by prospective bidders will later be counted toward the down payments that winning bidders must make. The upfront payments of bidders who are not the high bidder on any BTA service area will be refunded as soon as possible after the MDS auction. Prior to refunding the upfront payments of non-winning bidders, however, we will determine whether they are subject to withdrawal or default payments. In some circumstances, it may be appropriate to retain upfront payments until after the winning bidders have tendered their down payments because further rounds of competitive bidding may be held if down payments are not made. No interest will be paid on upfront payments. See *Second Report and Order* at 2380.

c. Down Payments and Full Payments

142. To provide further assurance that winning bidders will be able to pay the full amount of their bids, we decided generally in the *Second Report and Order* that each winning bidder must tender a down payment sufficient to bring the total deposit up to twenty percent of the winning bid. We believe a down payment requirement is appropriate for MDS.⁹¹ Accordingly, winning bidders will be required to supplement their upfront payments to bring their total deposit with the Commission up to at least twenty percent of the final payment due for the BTA authorization(s) won in the MDS auction. If the upfront payment already tendered amounts to twenty percent or more of the winning bid, no additional deposit will be required. To the extent that any upfront payment not only covers, but exceeds, the required down payment, the Commission will refund any excess amount after determining that no bid withdrawal payments are owed by the bidder. To

⁹¹ Commenters addressing this issue similarly see no reason to depart from the approach established in the *Second Report and Order*. See Comments of Association at 52.

simplify this process administratively, the Commission will not honor requests that this excess amount be retained and applied toward later payments or obligations. The down payment will be due within five business days after the winning bidders have been notified by the Commission, and may be made by cashier's check or by wire transfer to the Commission's lock-box bank. The down payment will be held by the Commission until the winning bidder has been issued its BTA authorization and has paid the remaining balance of its winning bid, or until the winning bidder is found unqualified to be a station licensee or has defaulted, in which case it will be returned, less applicable default payments. During the period that deposits are held pending ultimate award of the BTA authorization, the interest that accrues, if any, will be retained by the government. *See Second Report and Order at 2381-2382; 47 C.F.R. § 1.2107(b).*

143. Based upon our experience in conducting spectrum auctions, we will require winning bidders to make full payment of the balance of their winning bids prior to the issuance of their BTA authorizations. Specifically, the Commission will, when a BTA authorization is ready to be issued, release a public notice stating that fact. The auction winner for that BTA will be required to make full payment of the balance of its winning bid within five business days following this public notice. The Commission will issue the BTA authorization to the auction winner within ten business days following notification of receipt of full payment. *See Second Report and Order and Second Further Notice of Proposed Rulemaking in PR Docket No. 89-553, PP Docket No. 93-253, and GN Docket No. 93-252, FCC 95-159 (released April 17, 1995) at ¶ 109.*

144. Auction winners that are small businesses eligible for installment financing will be subject to differing payment requirements, however. *See infra* ¶¶ 190-192 for discussion of small business eligibility. Specifically, a small business will be required to bring its total deposit with the Commission up to ten percent of its winning bid within five business days after having been notified by the Commission of its winning bidder status. An additional ten percent will be due within five business days following the public notice that its BTA authorization is ready to be issued. The Commission will then issue the BTA authorization to the small business within ten business days following notification of receipt of this additional ten percent payment.

d. Bid Withdrawal, Default and Disqualification Payments

145. In the *Second Report and Order*, we concluded that strong incentives are needed to ensure that potential bidders are financially and otherwise qualified to participate in auction proceedings, so as to avoid delays in the deployment of new services to the public. *Id.* at 2382. We accordingly stated that we will, in simultaneous multiple round auctions, impose a bid withdrawal payment requirement in instances where a high bid is withdrawn during the course of the auction and an additional default payment if a winning bid is withdrawn after the auction has closed. *Id.* at 2373-2374.

146. In an MDS simultaneous multiple round auction, 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 BTA service area is offered by the Commission, if this subsequent winning bid is lower than the withdrawn bid.⁹² No withdrawal payment 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 submit a long-form application or statement of intention, fails to make full payment, or is otherwise disqualified) will be subject to an additional payment of three percent of the subsequent winning bid or three percent of the amount of the defaulting bid, whichever is less. *See* 47 C.F.R. §§ 1.2104(g) and 1.2109; *Second Report and Order* at 2373-2374. The additional three percent payment 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 these amounts. In rare cases in which it would be inequitable to retain a down payment, we will entertain requests for waiver of this provision. We believe that these payment requirements will discourage insincere bidding and default and ensure that bidders have adequate financing and that they meet all eligibility and qualification requirements.⁹³

147. In addition, "if a default or disqualification involves gross misconduct, misrepresentation or bad faith by an applicant, the Commission also may declare the applicant and its principals ineligible to bid in future auctions, and may take any other action that it may deem necessary, including institution of proceedings to revoke any existing licenses held by the applicant." *Second Report and Order* at 2383. Parties who obtain their BTA authorizations through the auction process are put on notice that if their BTA authorizations are cancelled for any reason they will lose all monies paid to the Commission regarding those authorizations. This loss of monies paid is not intended as an exclusive remedy. Where such BTA holder's conduct so warrants, additional sanctions, including monetary fines and station license revocation, may be imposed.

⁹² If a BTA service area is re-offered by auction, the "winning bid" refers to the high bid in the auction in which the service area is re-offered. If a BTA service area 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 an amount equal to the difference between its withdrawn bid and the amount of the subsequent winning bid the next time the BTA service area is offered by the Commission. If a BTA service area which 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 will not be required to accept the offer. We wish to encourage losing bidders in MDS simultaneous multiple round auctions to bid on other BTA service areas, and therefore we will not hold them to their losing bids on a service area for which a bidder has withdrawn a bid or on which a bidder has defaulted.

⁹³ Commenters addressing this issue agree that default payments are needed to deter speculation and insincere bidding. *See* Comments of Association at 54; PacTel at 4-5.

148. In the event that an MDS auction winner defaults or is otherwise disqualified, the Commission must determine whether to hold a new auction or simply offer the BTA service area to the second-highest bidder. 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 BTA service area. *Id.* at 2383. Although we recognize that this may cause a brief delay in the initiation of service to the public, circumstances may change so significantly during the time between the original auction and the disqualification as to alter the value of the BTA service area to auction participants, as well as to parties who did not participate. In this situation, awarding BTA authorizations to the parties that value them most highly can best be assured through a re-auction. If, however, the default occurs within five business days after the bidding has closed, the Commission retains the discretion to offer the BTA service area to the second highest bidder at its final bid level, or if that bidder declines the offer, to offer the BTA service area to other bidders (in descending order of their bid amount) at the final bid levels. Moreover, if only a small number of relatively low value BTA service areas are to be re-auctioned and only a short time has passed since the initial auction, the Commission may choose to offer the BTA service areas to the highest losing bidders because the cost of holding another auction for MDS may not exceed the benefits. *See id.*; 47 C.F.R. § 1.2109(b) and (c).

149. If a new MDS auction becomes necessary because of default or disqualification more than five 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 facilitate achieving this goal, and that the short delay that may result from allowing new applications in a re-auction is warranted. 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 BTA authorizations, 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. *See Second Report and Order* at 2384; 47 C.F.R. § 1.2109(c).

e. Post-Auction Application Procedures

150. Unlike other services where auction winners may file a single long-form application to obtain a single license for the entire geographic area auctioned, the winning bidder for each BTA service area will be required, in accordance with our existing rules, to submit separate long-form applications for each channel group and location within the BTA for which the bidder wants to obtain an MDS station license. The winning bidder for each BTA service area will therefore be required to submit a separate long-form application for each Channel E group, for each Channel F group, and for each Channel 1, 2 (or 2A), H1, H2, and H3 within the BTA for which the winning bidder wishes to receive a license.

151. The long-form application for the initial MDS station license within each BTA service area will be due from the winning bidder for that BTA within thirty business days after

such bidder has been notified of its winning bidder status.⁹⁴ After the Commission receives the winning bidder's down payment and the long-form application for the initial MDS station license within the BTA, we will review the long-form application, which must include, among other items, a FCC Form 430 and exhibits concerning the winning bidder's involvement in bidding consortia and status as a designated entity.⁹⁵ If the long-form application is found to be acceptable, the Commission will release a public notice announcing this fact, triggering the thirty day filing window for petitions to deny. If the Commission denies or dismisses all petitions to deny (if any are filed), and is otherwise satisfied that the applicant is qualified, the BTA authorization will be issued and the initial conditional MDS station license within the BTA service area of the auction winner will be granted, assuming that the auction winner (except for a small business making installment payments) has made full payment as set forth in ¶ 143. *See Second Report and Order* at 2383; 47 C.F.R. §§ 1.2107(c), 1.2108. Subsequent long-form applications for MDS station licenses within BTA service areas, which auction winners may submit at any time during the five year build-out period, will be reviewed by the Commission and granted in a similar manner, except, of course, that the winning bidders will need to make no further payments.

152. However, we realize that a number of BTA service areas may be so encumbered that the winning bidder for such a BTA may be unable to file a long-form application proposing another MDS station within the BTA while meeting the Commission's interference standards as to all previously authorized or proposed MDS and ITFS facilities. The winning bidder's objective in bidding on such a heavily encumbered BTA would likely be to purchase the previously authorized or proposed MDS stations within the BTA and to maintain full flexibility to make modifications. It also seems likely that a winning bidder for a heavily encumbered BTA may itself possess most or all of the previously authorized or proposed MDS stations within that BTA, and the bidder's goal in obtaining the authorization for the BTA in which it already had MDS stations would similarly be to preserve full flexibility to make modifications. The winning bidder for a BTA service area so heavily encumbered that it believes it cannot file an acceptable long-form application proposing an MDS station with average transmitted power within its BTA should follow the post-auction procedures set forth below.

153. After notification of its status as a winning bidder for a heavily encumbered BTA service area, the bidder must make its down payment within five business days in the normal

⁹⁴ We realize that other services have generally required the filing of long-form applications within ten days of notification of the winning bidders. However, given the need for MDS auction winners to protect all previously authorized or proposed MDS and ITFS facilities within their BTA service areas from harmful interference, we believe that such winning bidders will likely require a longer period of time to complete the requisite engineering studies and interference analyses before filing their initial long-form applications for MDS station licenses.

⁹⁵ The content of these exhibits is set forth in Section 21.956(b) of our amended rules, attached as Appendix C. Commenters agree that such information is needed, particularly where an applicant claims status as a designated entity. *See Comments of U.S. Wireless* at 13.

manner. Within thirty business days after notification of its winning bidder status, the winning bidder must file with the Commission, in lieu of a long-form application for an MDS station license, a statement of intention with regard to the BTA service area, showing the encumbered nature of the BTA, identifying the incumbents, and describing in detail its plan for obtaining the previously authorized or proposed MDS stations within the BTA. We do not intend to force winning bidders to file long-form applications for MDS station licenses in BTAs so encumbered that the only proposed station to not cause harmful interference to incumbents would, for example, be a facility with a one watt transmitter and a highly directional antenna, serving no significant population. Winning bidders must, however, document in their statements of intention that additional MDS stations with average transmitted power could not be constructed in their BTAs without causing harmful interference to previously authorized or proposed MDS and ITFS facilities. If a winning bidder fails to file either this statement of intention or a long-form application within the thirty day period, it will be in default and will be subject to the appropriate default payments. The statement of intention should also include a FCC Form 430, a drug certification, and the same exhibits concerning the winning bidder's financial circumstances, involvement in bidding consortia, and status as a designated entity that must be attached to initial long-form applications. *See supra* ¶ 151.

154. The Commission will, following its review of the winning bidder's statement of intention, issue the BTA authorization to the winning bidder. Such issuance of the BTA authorization will, of course, be made only following full payment by the winning bidder as set forth in ¶ 143, except for a small business making installment payments. Parties wishing to comment on or oppose the issuance of a BTA authorization issued in connection with the filing of a statement of intention by a winning bidder must do so prior to the Commission's issuance of the BTA authorization.

f. Period of MDS Station Licenses

155. Under the Commission's rules, licenses for MDS stations are to be "issued for a period not to exceed 10 years." 47 C.F.R. § 21.45(a). "Unless otherwise specified by the Commission," the expiration of MDS station licenses as a class is, however, set on a single date (May 1) "in the year of expiration" (*i.e.*, the year which is ten years from the last expiration date of the class of MDS licenses, which was 1991). *Id.* Thus, the current term for all MDS station licenses as a class will expire on May 1, 2001, regardless of when these licenses are awarded. Because MDS station licenses as a class are due to expire on this set date, an MDS licensee who receives its station license on, for example, May 1, 1996 would in effect have the license for only five years before the licensee must apply for renewal.

156. For the reasons set forth herein, we believe that MDS auction winners should not be subject to the fixed MDS station license renewal cycle which, under existing rules, will expire on May 1, 2001, only five years or so from the time that any auction winner could expect to receive its initial station license in its BTA service area. We believe all winning bidders in the MDS auction should be assured of receiving station licenses of a duration sufficient so that they may

have a reasonable period of time to construct their systems and earn a return on the amounts they invested in acquiring the BTA authorizations and MDS station licenses by competitive bidding. In addition, we realize that bidders who must arrange financing will need to assure lenders that they will have possession of their MDS station licenses for a reasonably lengthy period of time. We therefore determine that all MDS station licenses granted in every BTA service area auctioned should be for a ten year period (the maximum specified in Section 21.45(a)) to run from the date that the Commission declares bidding in the MDS auction to be closed.

157. We conclude that awarding MDS station licenses with definite ten year terms, rather than much briefer, indeterminate terms dependent on when the license is granted, serves both prospective bidders and the Commission well. As described above, the set ten year period is of sufficient certainty and length to be fair to parties who must now pay considerable sums, and perhaps obtain outside financing, in order to acquire BTA authorizations and MDS station licenses. In addition, we note that granting MDS station licenses with set ten year terms will allow small businesses eligible for installment financing to make payments over a period comparable to the length of their initial station licenses.⁹⁶ Furthermore, specifying that MDS licenses for stations located in BTA service areas acquired by competitive bidding will be for ten year terms dated from the close of bidding in the MDS auction, rather than from the actual date of issuance of each individual station license, will be administratively convenient for the Commission. Because all MDS station licenses granted within BTA service areas acquired by competitive bidding will expire on the same date, the Commission will be able to easily process those licenses and to deal more expeditiously with their renewal. In accordance with Section 21.45(a), we hereby specify that all MDS station licenses granted in every BTA service area auctioned will have ten year terms from the date that the Commission declares bidding in the MDS auction closed.

6. Regulatory Safeguards

a. Unjust Enrichment and Anti-Trafficking Provisions

158. Congress directed that we take steps to prevent unjust enrichment due to trafficking in licenses that were obtained through competitive bidding. *See* 47 U.S.C. § 309(j)(4)(E). In Section 7 below, we adopt specific rules to prevent designated entities from taking advantage of special provisions for such entities by transferring control of their BTA authorizations immediately following the MDS auction. Moreover, the MDS rules already contain provisions to reduce trafficking. *See* 47 C.F.R. § 21.39 (generally prohibiting assignment or transfer of MDS conditional station licenses prior to completion of construction of facility).

⁹⁶ *See* Comments of Association at 59 (noting that Commission's general approach of permitting installment payments to be spread over term of license would be inequitable since all MDS station licenses were set to expire on May 1, 2001, regardless of when issued, and advocating that small businesses be allowed to pay for licenses in installments over a ten year period).

These existing anti-trafficking provisions will continue to apply to MDS conditional station licenses granted prior to the institution of competitive bidding procedures. Consistent with the *Second Report and Order*, however, the existing MDS-specific anti-trafficking provisions will not apply to BTA authorizations and MDS conditional station licenses granted within auctioned BTA service areas.

159. With regard to BTA authorizations obtained by auction, an applicant seeking approval for an assignment or transfer of control of a BTA authorization within three years of receipt of such authorization by means of competitive bidding must, together with its assignment or transfer application, file with the Commission a statement indicating that its authorization was obtained through competitive bidding. Such applicant must also file with the Commission the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration received in return for the assignment or transfer of the authorization. We will give particular scrutiny to auction winners who have not yet begun commercial service within their BTA service areas and who seek approval for an assignment or transfer of control of their authorizations within three years after the receipt of such authorizations, 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 2385-2386; 47 C.F.R. § 1.2111(a).

160. After consideration, we determine not to adopt any additional restrictions on the assignments or transfers of BTA authorizations, outside of the designated entity context. In our opinion, unjust enrichment is unlikely to be a problem in the MDS competitive bidding process where the auction winners will pay the market price for their BTA authorizations and hence resale of such authorizations should not involve any unjust enrichment. *See Second Report and Order* at 2385. Moreover, prohibitions on assignments or transfers of BTA authorizations, even if for a limited time, might have the unintended effect of delaying service to the public. *See id.* We therefore decline to impose prohibitions on assignments or transfers, such as a prohibition on the resale of MDS "channels for profit until those channels have been operational for one year," as one commenter suggests. *See Comments of Rural Wireless* at 11.

b. Construction Build-out Requirements

161. Congress has directed that the Commission, in implementing auction procedures, "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." 47 U.S.C.

§ 309(j)(4)(B). In the *Second Report and Order*, we decided that it was generally unnecessary to impose additional construction build-out or other performance requirements for auctionable services beyond those already provided in service rules. *Id.* at 2386. However, following a review of our existing MDS rules, we determined to alter the construction requirements that will be applicable to the holders of BTA authorizations obtained by competitive bidding.

162. Our current rules require the completion of construction of MDS stations within twelve months from the date of the conditional station license grant. 47 C.F.R. § 21.43. We will continue to apply this existing requirement to MDS conditional station licenses granted prior to the institution of competitive bidding procedures. We will not, however, apply this twelve month construction requirement to MDS conditional station licenses granted in the future in the BTA service areas of auction winners. Instead, we will require the holders of BTA authorizations to meet the five year build-out requirements set forth at ¶ 43.

163. We believe that this change in our construction requirements is necessitated by our decision to grant BTA-based authorizations to MDS auction winners. Our goal in imposing any construction or other performance requirement is to insure that each auction winner provides service throughout its BTA. We believe that the imposition of a general BTA-wide build-out requirement will better achieve this goal than our continued imposition of a twelve month construction requirement on each particular MDS facility within the BTA.⁹⁷

c. Rules Prohibiting Collusion

164. In the generic auction rules, we adopted special provisions to prevent collusive conduct in the context of competitive bidding. 47 C.F.R. § 1.2105(c). We indicated that such rules would serve the objectives of the Budget Act by preventing parties, especially larger firms, from agreeing in advance to bidding strategies that might divide the market according to their strategic interests and to the disadvantage of other bidders. Such rules could also strengthen confidence in the bidding process. *Second Report and Order* at 2386. These rules apply to all auctionable services, including MDS. Applicants are required to identify in an exhibit to their short-form applications any parties with whom they have entered into any consortium arrangements, joint ventures, partnerships or other agreements or understandings which relate to the BTA service areas being auctioned. Applicants are also required to certify that they have not entered 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 BTA service areas on which they will or will not bid. *See* 47 C.F.R. § 1.2105(a)(2)(viii) and (ix). Except as otherwise provided in ¶ 165, after the short-form applications are filed and prior to the time the winning bidder has made its required down payment, all applicants are prohibited from cooperating, collaborating, discussing or disclosing in any manner the substance of their bids or bidding strategies, or discussing settlement agreements, with other applicants, unless such applicants are members of a bidding consortium or other joint bidding arrangement identified on the applicants' short-form application. *See* 47 C.F.R. § 1.2105(c)(1). Communications among applicants concerning matters unrelated to the MDS auction will, however, be permitted after the filing of short-form applications. *See Fourth Memorandum Opinion and Order* in PP Docket No. 93-253, 9 FCC Rcd 6858, 6869 (1994).

⁹⁷ We also note that imposing such a build-out requirement is consistent with the requirements of other area-based services, such as PCS. *See* 47 C.F.R. §§ 24.103 and 24.203 (requiring building out of narrowband and broadband PCS systems to serve percentage of population, or specified amount of area, within relevant service area).

165. Despite the restrictions set forth in ¶ 164, applicants may amend their short-form applications to reflect formation of bidding consortia or changes in ownership after the short-form application filing deadline has passed, provided such changes do not result in a change in control of the applicant, and provided that the parties forming consortia or entering into ownership agreements have not applied to bid on the same BTA service areas. In addition, after the filing of short-form applications, applicants may make agreements to bid jointly for BTA service areas, provided the parties to the agreement have not applied for the same BTA service areas. A holder of a non-controlling attributable interest in an entity submitting a short-form application may also, following the filing of the short-form application and under certain conditions specified in 47 C.F.R. § 1.2105(c)(4), acquire an ownership interest in, form a consortium with, or enter into a joint bidding arrangement with, other applicants for the same BTA service areas. To reflect these changes in ownership or in the membership of consortia or joint bidding arrangements, applicants must amend their short-form applications by submitting a revised short-form, filed within two business days of any such change; such modifications will not be considered major amendments of the applications. However, any amendment which results in the change of control of an applicant will be considered a major amendment of the short-form. *See supra* ¶ 133; 47 C.F.R. § 1.2105(c)(2), (3) and (4); *Second Memorandum Opinion and Order* at 7254; *Memorandum Opinion and Order* in PP Docket No. 93-253, 9 FCC Rcd 7684, 7688-7689 (1994). Finally, the winning bidder for each BTA service area must, as an exhibit to its initial long-form application or statement of intention, explain the terms and conditions and parties involved in any bidding consortia, joint venture, partnership or other agreement it had entered into relating to the competitive bidding process prior to the time bidding was completed. *See* 47 C.F.R. § 1.2107(d).

166. Where specific instances of collusion in the competitive bidding process are alleged, 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, among other remedies, be subject to the loss of their upfront payment, down payment or their full bid amount, cancellation of their BTA authorizations, and may be prohibited from participating in future auctions. *See Second Report and Order* at 2388; 47 C.F.R. § 1.2109(d).

7. Treatment of Designated Entities

a. General Considerations

167. Section 309(j) of the Communications Act provides 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 congressional goal, the statute directs the Commission to "consider the use of tax certificates, bidding preferences, and other procedures." *Id.* In addition, Section 309(j)(3)(B) instructs the Commission, in establishing eligibility criteria

and bidding methodologies, to promote "economic opportunity and competition . . . 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," which are collectively referred to as "designated entities." 47 U.S.C. § 309(j)(3)(B); 47 C.F.R. § 1.2110. Section 309(j)(4)(A) further provides that to promote these objectives, the Commission shall consider alternative payment schedules, including lump sums or guaranteed installment payments. 47 U.S.C. § 309(j)(4)(A).

168. In instructing the Commission to ensure the opportunity for designated entities to participate in auctions and spectrum-based services, Congress was aware of the problems that designated entities would have in competing against large, well-capitalized companies in auctions and the difficulties they encounter in accessing capital. For example, the legislative history accompanying our grant of auction authority states generally that the Commission's regulations "must promote economic opportunity and competition," and "[t]he Commission will realize these goals by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses and businesses owned by members of minority groups and women. H.R. Rep. No. 111, 103d Cong., 1st Sess. 254 (1993) (House Report). The House Report states that the House Committee was concerned that, "unless the Commission is sensitive to the need to maintain opportunities for small businesses, competitive bidding could result in a significant increase in concentration in the telecommunications industries." *Id.* More specifically, the House Committee was concerned that the adoption of competitive bidding should not have the effect of "excluding small businesses from the Commission's licensing procedures," and anticipated that the Commission would adopt regulations to ensure that small businesses would "continue to have opportunities to become Commission licensees." *Id.* at 255.

169. Consistent with Congress' concern that auctions not operate to exclude small businesses, the provisions relating to installment payments in Section 309(j) were clearly intended to assist small businesses. The House Report states that these provisions were drafted to "ensure that all small businesses will be covered by the Commission's regulations, including those owned by members of minority groups and women." *Id.* at 255. It also states that the provisions in Section 309(j)(4)(A) pertaining to installment payments were intended to promote economic opportunity by ensuring that competitive bidding does not inadvertently favor incumbents with "deep pockets" "over new companies or start-ups." *Id.*

170. Moreover, with regard to access to capital, Congress had 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." Small Business Credit and Business Opportunity Enhancement Act of 1992, Pub. L. No. 102-366, § 331(a)(3), 106 Stat. 986, 1007 (1992). As a result of these difficulties, 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." *Id.* at § 331(b)(2) & (3).

171. In our initial implementation of Section 309(j), the Commission 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 minorities and women. We also identified several measures, including installment payments, bidding credits and spectrum set-asides, that we could choose from in formulating the rules for auctionable spectrum-based services. In addition, we established rules to prevent unjust enrichment by designated entities seeking to assign or transfer licenses obtained through use of one of these special measures. *See Second Report and Order* at 2388-2400.

172. In adopting provisions to provide designated entities opportunities in MDS, we note that, while Section 309(j) lists the various designated entities together, the statute does not indicate that each group must be afforded the same type of treatment. *See Competitive Bidding Notice* at 7646. We have consistently emphasized that the provisions applicable to particular designated entities would vary depending on the nature of each individual service. In particular, we have evaluated the capital requirements, the nature of the expected pool of bidders, and other characteristics of each service to determine the appropriate measures to achieve the objectives of the auction statute. *See Second Memorandum Opinion and Order* at 7256; *Fourth Report and Order* at 2336.

173. With regard to MDS, we note that this service differs from the other services that have been auctioned to date in several important ways. First, unlike PCS and IVDS, wireless cable is a heavily encumbered service with many of the channels in most major markets already occupied. Given the limited amount of remaining usable spectrum and the need to protect incumbents from harmful interference, we anticipate that the BTA service areas will be auctioned for relatively modest amounts, particularly in comparison to the sums bid in the PCS auctions. Second, it is necessary for MDS channels within a geographic area to be aggregated under the control of a single wireless cable operator, to allow it to compete with wired cable television systems in the same area. *Notice* at 7667. Thus, our goal in this proceeding is not to set the stage for the development of an entirely new industry, such as PCS, but to allow the progression and rationalization of the existing wireless cable industry. Accordingly, we cannot adopt designated entity rules that would hinder the accumulation of MDS channels within BTAs by entities financially capable of operating wireless cable systems and providing competitive service to the public.

174. Because MDS differs from other auctionable services, we requested in our *Notice* comment on the various special measures available for designated entities. We specifically requested comment on "which entities should be eligible to receive them, and their appropriateness in light of the characteristics of MDS." *Notice* at 7678-7679. Despite our specific request for comment, no minority or women-owned entities, or organizations representing them, submitted comments on the need for special measures for such entities in MDS. Thus, the Commission has no record before it with reliable information about the percentage of minority and women-owned businesses in the wireless cable industry and no information as to how such businesses could be disadvantaged in an MDS auction without special

incentives for them.

175. In this *Report and Order* we adopt specific designated entity measures appropriate for MDS, based on the record in this proceeding and on the unique characteristics of the service as identified above. Specifically, we have determined to make installment payments, reduced upfront payments and bidding credits available to small businesses, including those owned by minorities and women, and to small business consortia. We also adopt the unjust enrichment provisions set forth in the *Second Report and Order* applicable to installment payments and bidding credits. *Id.* at 2395; 47 C.F.R. § 1.2111(c) & (d). We decline to adopt spectrum set-asides. Such a measure is inappropriate for MDS, given the heavily encumbered nature of this service and the lack of sizable, discrete blocks of spectrum to auction.⁹⁸

b. Entities Eligible for Special Measures

176. Although we will offer installment financing, reduced upfront payments and bidding credits to small businesses, we have concluded that the provision of additional measures for rural telephone companies is unnecessary in the MDS auction. Congress intended by including rural telephone companies in the category of designated entities to ensure that rural consumers received the benefit of new technologies. *See* 47 U.S.C. § 309(j)(3)(A); *Fourth Report and Order* at 2337 n.66. However, many rural consumers and residents of smaller communities already receive the benefit of wireless cable services. Numerous wireless cable operators focus on uncabled rural areas and small towns, and rural states, such as North and South Dakota, Oklahoma, and Nebraska, have among the highest numbers of operating and planned wireless cable systems. Moreover, given the anticipated modest auction prices of authorizations for sparsely populated rural BTAs, we do not believe that rural telephone companies will need either a special exemption from the MDS competitive bidding process or additional measures provided to them in order to compete in the auction process.⁹⁹ Rural telephone companies will, of course, be eligible for the incentives provided to small businesses generally if they meet those eligibility requirements. *See* Reply Comments of Telephone Cooperative at 2-3 (urging Commission to provide rural telephone companies same treatment as

⁹⁸ This decision is consistent with the Commission's previous determination that, due to the small amount of spectrum available, spectrum set-asides were not appropriate for IVDS. *See Fourth Report and Order* at 2336. Such determination is also consistent with the comments received in this proceeding, which uniformly state that set-asides are not appropriate for MDS, given the limited amount of spectrum available and the need to aggregate channels to create competitive wireless cable service. *See* Comments of PacTel at 3; Vega at 19; Association at 64-66; American Telecasting at 26; ACS Enterprises, *et al.* at 24.

⁹⁹ *See* Comments of Rural Wireless at 3-9 (arguing for either an exemption from competitive bidding process or additional special measures for rural telephone companies because Congress wanted to ensure the provision of wireless cable services to rural consumers and because rural telephone companies have been unable to compete in other spectrum auctions, including PCS).

small businesses, if they meet small business eligibility requirements.) This determination not to provide additional measures for rural telephone companies is consistent with the Commission's decisions in the PCS and IVDS auction rules, and with other comments received in this proceeding.¹⁰⁰

177. In addition, we expect rural telephone companies to take advantage of the partitioning option described above at ¶¶ 46-47, so they will not have to bid on entire BTAs to obtain authorizations for the rural areas they are interested in serving. Thus, rural telephone companies should be able to obtain authorizations for partitioned BTAs by private negotiation and agreement with auction winners. Rural telephone companies could also form bidding consortia to participate in MDS auctions, and then partition the BTAs won among consortia participants. In our opinion, the offering of this broad partitioning option to all interested entities, including rural telephone companies, also serves to make the provision of additional measures for rural telephone companies unnecessary.

178. Although we will offer installment financing, reduced upfront payments and bidding credits to minority and women-owned small businesses, we have also for several reasons determined, in the absence of evidence in the record to the contrary, that the provision of special measures to minority and women-owned enterprises, regardless of size, is unnecessary. First, we note that installment financing, reduced upfront payments and bidding credits will not be limited to certain BTA service areas, but will be available to small businesses for every BTA service area to be auctioned. We believe that broadening the scope of opportunity for small businesses in this manner should also create substantial opportunity for minority and women-owned enterprises. Census data has shown that approximately ninety-nine percent of all women-owned and ninety-nine percent of all minority-owned businesses generate annual receipts of one million dollars or less.¹⁰¹ Thus, we expect that virtually all minority and women-owned enterprises will be eligible for the special measures adopted herein for small businesses. Moreover, we note that we are permitting consortia of small businesses to utilize installment financing, reduced upfront payments and bidding credits, if each member of the consortia is individually eligible. Small minority and women-owned enterprises may therefore join together in consortia to participate in MDS auctions and still remain eligible for all special measures available to small businesses individually.

179. Second, we believe that small minority and women-owned entities, with the various incentives they will receive as small businesses, should be able to participate successfully in

¹⁰⁰ See Comments of ACS Enterprises, *et al.* at 24; Reply Comments of Association at 18; Reply Comments of American Telecasting at 16-17 (noting that additional measures for rural telephone companies are not necessary to ensure that rural consumers receive benefit of wireless cable service, and that there is no reason to prefer rural telephone companies over others as providers of such service in rural areas).

¹⁰¹ See *Women-Owned Businesses*, WB 87-1, 1987 Economic Census, at 144, Table 8; *Survey of Minority-Owned Business Enterprises*, MB 87-4, 1987 Economic Census, at 81-82, Table 8.

competitive bidding, given the anticipated relatively modest value of many of the BTA service areas to be auctioned. Due to the heavily encumbered nature of the wireless cable industry, the Commission has estimated that the amounts bid in the MDS auction will not approach the levels reached in earlier auctions, particularly PCS. Thus, additional incentives for minority and women-owned enterprises, regardless of their size, appear less necessary for MDS than for other auctionable services.

180. Moreover, we note that minority and women-owned entities may also, like rural telephone companies, take advantage of the broad partitioning option set forth above at ¶¶ 46-47. Unlike other services that have limited the availability of partitioning to rural telephone companies, we are allowing any type of entity to negotiate with auction winners to obtain authorizations for partitioned BTAs. Thus, minority and women-owned entities that do not wish to bid on entire BTAs should be able to acquire authorizations for partitioned portions of those service areas.

181. This determination not to provide additional measures for minority and women-owned companies, regardless of their size, is consistent with the Commission's position in other auction rules. In the *Fifth Report and Order*, we specifically observed that, due to the expected high auction value of the PCS spectrum and the substantial build-out costs, it would be necessary to provide additional assistance to women and minority enterprises to ensure their opportunity to participate in broadband PCS than would be "necessary in other, less costly spectrum-based services." *Id.* at 5572-5573. We believe that the installment financing, reduced upfront payments and bidding credits available to all small businesses, along with the broad partitioning option, should be sufficient to give minority and women-owned entities the opportunity to participate in the "less costly" MDS auction.

c. Installment Payments

182. In this *Report and Order*, we approve installment financing for small businesses.¹⁰² Permitting a winning bidder to pay through installments is the equivalent of having the government extend credit to the bidder. With this installment financing option, a prospective bidder may not need to rely as heavily on private financing either before or after an auction. Given the difficulties experienced by small businesses in obtaining credit (*see supra* ¶ 170), this governmental extension of credit should be particularly valuable to small businesses that are winning bidders in spectrum auctions. Installment payments should therefore be both an effective method of promoting the participation of designated entities in the provision of spectrum-based services and a means of distributing licenses and services among geographic areas. *Second Report and Order* at 2389-2390. In the *Second Report and Order*, we determined that installment payments should be offered only to small businesses (including those owned by minorities and women), and then only in instances where use of the spectrum being auctioned was likely to match the business objectives of *bona fide* small businesses. *Id.* at 2390. We also

¹⁰² No commenter opposes the adoption of an installment payments measure.

specifically noted that the legislative history of the Budget Act indicates that large enterprises with established revenue streams are not intended the beneficiaries of installment financing. *Id.* Given the considerable number of small enterprises currently involved in the wireless cable industry, we believe that MDS has offered, and will continue to offer, *bona fide* business opportunities to small enterprises.

183. We will therefore permit the use of installment payment plans in all MDS auctions, and follow the general procedures set forth in the *Second Report and Order*. The installment payment option will allow a small business to pay the full amount of its winning bid in installments (less the upfront payment and the down payment, half of which is due five business days after notification to the winning bidder and the other half five days after the public notice stating that the BTA authorization is ready for issuance). Only interest payments will be due for the first two years, with principal and interest both being amortized over the remaining years of the ten year period running from the date that the BTA authorization is issued. Also, interest charges will be fixed at the time of issuance of the BTA authorization at a rate equal to that of ten year U.S. Treasury notes, plus two and one half (2.5) percent. *See Second Report and Order* at 2390. Timely payments of all installments will be a condition of the issuance of the BTA authorization. Failure to make such timely payments on or before the date due is also grounds for cancellation of the BTA authorization, although limited grace periods for defaulting small businesses may be considered on a case-by-case basis. *See id.* at 2391. If a small business making installment payments seeks to assign or transfer its BTA authorization to a non-small business entity, we will require payment of any remaining unpaid principal balance, and of any unpaid interest accrued, as a condition of the assignment or transfer. *See id.* at 2395.

d. Reduced Upfront Payments

184. 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 payments. *See Second Report and Order* at 2377-2379. Although the Commission has not chosen to create a general exception to our upfront payment requirements for designated entity applicants (*see id.* at 2380), we have previously allowed designated entities to make reduced upfront payments. *See, e.g., Fifth Report and Order* at 5600. We believe that allowing small businesses to make reduced upfront payments should facilitate auction participation by capital-constrained wireless cable operators and permit them to conserve resources for building out their systems after the MDS auction. *See infra* ¶ 191 for a discussion of the capital constraints faced by wireless cable operators.

185. Specifically, we will for the MDS auction reduce the upfront payment requirement by twenty-five percent for small businesses and for small business consortia. *See Fifth Report and Order* at 5600 (reducing upfront payment for bidders in entrepreneurs' block PCS auction by twenty-five percent). As discussed in ¶ 137, prior to the MDS auction, the Mass Media Bureau, in conjunction with the Wireless Telecommunications Bureau, will publish a public notice listing the upfront payment amount corresponding to each BTA service area to be auctioned. A

prospective bidder claiming eligibility as a small business and wishing to bid on a particular BTA service area will thus be required to submit an upfront payment equal to seventy-five percent of the upfront payment specified in the public notice for that BTA. We believe that this reduction in the upfront payments for small businesses will properly permit wireless cable operators to conserve their capital for building out their systems and adding subscribers, while still serving to discourage insincere or speculative bidding.

e. Bidding Credits

186. Given the difficulties faced by small businesses in accessing capital (*see supra* ¶ 170), and based upon our expectations as to the numbers and types of bidders that will participate in the MDS auction, we conclude that a bidding credit is appropriate for small businesses in the MDS auction. A bidding credit, in effect, functions as a discount on the bid price a bidder will actually have to pay to obtain a BTA authorization and, thus, will address directly the financing obstacles encountered by small businesses. A bidding credit should accordingly "level the playing field" by helping small businesses, particularly incumbent wireless cable operators, to compete effectively in the MDS auction against larger enterprises, such as the large telecommunications carriers. We also believe the offering of a bidding credit may aid small businesses to more easily attract capital; specifically, outside investors may be more eager to invest in a small wireless cable operator if that operator will be benefited by a bidding credit in the MDS auction. For these reasons, we believe that a bidding credit will have a significant positive effect on the ability of small businesses to participate successfully in an MDS auction.

187. We note that the commenters in this proceeding differ as to the appropriateness of a bidding credit for MDS. Some commenters support the provision of a bidding credit to help ensure that small businesses are given an opportunity to participate in the provision of spectrum-based services. *See* Comments of Vega at 19; Rural Wireless at 11-12. Other commenters either oppose the adoption of a bidding credit measure or support a bidding credit severely restricted in its applicability. *See* Comments of American Telecasting at 26; ACS Enterprises, *et al.* at 21; Association at 63-64. These commenters oppose the adoption of a widely-available bidding credit because they contend that the offering of such a credit to designated entities who may not possess MDS channels already may work against the accumulation of channels in the hands of entities with the ability to develop viable wireless cable operations. After consideration, we must disagree with those commenters who oppose the offering of a bidding credit. We believe that the adoption of a bidding credit for small businesses will not only enable small businesses generally to better compete in the MDS auction, but may also actually encourage the aggregation of channels in the hands of existing wireless cable operators by allowing these incumbents to compete successfully in the auction against larger enterprises, such as telecommunications carriers, who may not currently possess MDS channels.

188. For these reasons, we will offer a fifteen percent bidding credit to small businesses, and to consortia of small businesses, bidding on any of the BTA service areas available in the MDS auction. Given the encumbered nature of MDS and the presence of incumbents in most

BTAs, it appears impractical to restrict the availability of bidding credits to certain channels or spectrum blocks. Additionally, we believe that we would provide greater opportunities for small businesses, including incumbent wireless cable operators, if we offer bidding credits on all BTA service areas. We feel that these bidding credits will help achieve the objectives of Congress by providing small businesses, including women-owned and minority-owned small businesses, with a meaningful opportunity to obtain BTA authorizations and to conserve scarce capital for building out their wireless cable systems after the auction. Although other services have provided larger bidding credits to certain designated entities, we believe that the fifteen percent credit is sufficient for MDS because, unlike these other services, we will offer this bidding credit on all authorizations to be awarded to small businesses.¹⁰³

189. To prevent unjust enrichment by small businesses trafficking in BTA authorizations acquired through the use of bidding credits, we will require small businesses to reimburse the government, as set forth below, if BTA authorizations are transferred or assigned to entities that do not fulfill the small business eligibility requirements. *See Second Report and Order* at 2395. Small businesses seeking to transfer or assign a BTA authorization to an entity not meeting the definition of small business will be required to reimburse the government for the amount of the bidding credit, plus interest at the rate imposed for installment financing at the time the authorization was awarded, before transfer or assignment will be permitted. The amount of the required reimbursement will be reduced over time. A transfer or assignment in the first two years after issuance of the authorization will result in a reimbursement of one hundred percent of the value of the bidding credit; during year three, of seventy-five percent of the bidding credit; in year four, of fifty percent; in year five, of twenty-five percent; and thereafter, no reimbursement.¹⁰⁴

f. Eligibility for Installment Payments, Reduced Upfront Payments and Bidding Credits

190. In the *Second Memorandum Opinion and Order*, the Commission amended its generic auction rules to replace the small business definition used by the Small Business

¹⁰³ *See, e.g., Third Report and Order* at 2970 (providing twenty-five percent bidding credit on specified channels to certain designated entities in nationwide narrowband PCS auction); *Third Memorandum Opinion and Order* at 201 (providing forty percent bidding credit on specified channels to certain designated entities in regional narrowband PCS auction); *Fourth Report and Order* at 2337 (offering twenty-five percent bidding credit on one of two IVDS licenses available in each geographic license area). *See also Second Report and Order and Second Further Notice of Proposed Rulemaking* in PR Docket No. 89-553, PP Docket No. 93-253, and GN Docket No. 93-252, FCC 95-159 (released April 17, 1995) at ¶ 130 (proposing to provide ten percent bidding credit on all 900 MHz Specialized Mobile Radio channel blocks to be auctioned).

¹⁰⁴ Commenters addressing this issue agree with the Commission that measures to prevent unjust enrichment are needed. *See Comments of ACS Enterprises, et al.* at 22-23.

Administration (SBA) with a provision enabling the Commission to establish a small business definition in the context of each particular service, taking into consideration the characteristics and capital requirements of the particular service. *See* 47 C.F.R.

§ 1.2110(b)(1). In response to our specific request for comment on the appropriate definition of small business for MDS, the majority of commenters expressing an opinion supports the definition adopted by the Commission for the narrowband and broadband PCS. *See* Comments of Association at 61-62; Reply Comments of American Telecasting at 17-18; Reply Comments of ACS Enterprises, *et al.* at 8. Under this approach, a small business is an entity that, together with its affiliates, has annual average gross revenues for the three preceding years not in excess of \$40 million.

191. Following our review of the comments and our consideration of the capital requirements of MDS, we conclude that the approach utilized by the narrowband and broadband PCS is also appropriate for MDS. We will also allow consortia of small businesses, each member of which individually meets the \$40 million gross revenue standard, to qualify for installment payments, reduced upfront payments and bidding credits. *See* 47 C.F.R. § 1.2110(j). As noted by industry analysts and by commenters, wireless cable, although significantly less capital intensive than traditional coaxial cable, is not inexpensive. Tower and head end expenses may range from under \$1 million for a small rural system to \$2 to \$3 million per system in major markets, and the cost of adding each new subscriber has been estimated to be \$400 to \$600.¹⁰⁵ Thus, even though the cost of acquiring BTA authorizations at auction are estimated to be relatively modest in comparison to other services, considerable capital is nonetheless required to construct a competitive wireless cable system. Moreover, analysts have emphasized that the wireless cable industry has historically had difficulty in obtaining financing and that the future success of wireless cable is crucially dependent upon its ability to obtain additional financing.¹⁰⁶

192. Given the capital requirements of the wireless cable industry and its past difficulties in attracting capital, we believe that the \$40 million gross revenue standard is appropriate for MDS.¹⁰⁷ If the Commission were to adopt a significantly lower standard for the definition of

¹⁰⁵ *See* Gerard Klauer Mattison & Co., Inc., *The Wireless Cable Industry: Summary of 1994 and Outlook for 1995* (Dec. 22, 1994) at 2; Dillon Read & Co. Inc., *The Wireless Cable Industry* (Aug. 22, 1994) at 10; Gerard Klauer Mattison & Co., Inc., *The Wireless Cable Industry* (Jan. 21, 1993) at 4; Comments of Association at 62-63; Reply Comments of American Telecasting at 18.

¹⁰⁶ *See* Gerard Klauer Mattison & Co., Inc., *The Wireless Cable Industry: Summary of 1994 and Outlook for 1995* (Dec. 22, 1994) at 2; Gerard Klauer Mattison & Co., Inc., *The Wireless Cable Industry* (Jan. 21, 1993) at 4.

¹⁰⁷ We also note, as the commenters point out, that the capital requirements for certain narrowband PCS facilities appear comparable to or even lower than the capital required to

small business, we would exclude companies with the financial wherewithal to operate wireless cable systems competitive with cable television from eligibility for installment payments, reduced upfront payments and bidding credits. *See Second Memorandum Opinion and Order* at 7268; Comments of Association at 63. For example, if we define small businesses as entities with annual gross revenues of less than \$2 million, as one commenter urges, we would prevent wireless cable companies with the financial ability to construct systems and add subscribers from obtaining the benefits of these various special measures. *See Comments of Vega* at 19. We also believe that the standard SBA definition of small business -- an entity with no more than \$6 million net worth and no more than \$2 million in annual profits -- is similarly overly restrictive.¹⁰⁸ We accordingly decline to adopt the SBA's definition of small business for MDS, as a single commenter urges. *See Comments of Rural Wireless* at 12. We therefore conclude that the \$40 million gross revenue standard utilized by other services is appropriate, as it would not exclude enterprises in need of special incentives to compete successfully in the wireless cable industry, but would not provide such incentives to larger telecommunications enterprises with well-established revenue streams and easier access to capital.

g. Records Maintenance and Audits

193. All holders of BTA authorizations acquired by auction that claim designated entity status will be required to maintain, at their principal place of business or with their designated agent, an updated documentary file of ownership and revenue information necessary to establish their status. Holders of BTA authorizations or their successors in interest must maintain such files for a ten year period running from the date that their BTA authorizations are issued. The files must be made available to the Commission upon request.

194. BTA authorization holders claiming eligibility under designated entity provisions will be subject to audits by the Commission, using in-house or contract resources. Selection for an audit may be random, on information, or on the basis of other factors. Consent to such audits is part of the certification included in the short-form application. Such consent will include consent to the audit of the holders' books, documents and other material (including accounting procedures and practices), regardless of form or type, sufficient to confirm that such holders' representations are, and remain, accurate. Such consent will also include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business or keeping records regarding licensed MDS offerings, and will also include consent to the interviewing of principals, employees, customers, and suppliers of the BTA authorization holders.

construct a viable wireless cable system. Because the Commission adopted the \$40 million standard for narrowband PCS, these commenters assert that the adoption of the same standard is appropriate for MDS. *See Comments of Association* at 62; *Reply Comments of American Telecasting* at 18; *Third Report and Order* at 2969 n.40; *Third Memorandum Opinion and Order* at 196.

¹⁰⁸ *See Second Memorandum Opinion and Order* at 7268; *Third Memorandum Opinion and Order* at 195; *Fifth Report and Order* at 5606-5608.

195. We believe that the above records maintenance and audit provisions are necessary to prevent abuse of the special measures offered to those MDS auction winners claiming designated entity status. These provisions requiring the retention of records should not prove overly burdensome, and they will help to ensure that only entities eligible under the auction rules will be able to take advantage of the designated entity measures.

IV. ORDERING CLAUSES

196. Accordingly, IT IS ORDERED that, pursuant to the authority of Sections 4(i) and (j), 301, 303(f), 303(g), 303(h), 303(j), 303(r), 307(c), 308(b), 309(j) and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 301, 303(f), 303(g), 303(h), 303(j), 303(r), 307(c), 308(b), 309(j), and 403, this *Report and Order* is adopted, and Part 21 of the Commission's Rules ARE AMENDED as set forth in the attached Appendix C.

197. IT IS FURTHER ORDERED that the rule amendments set forth in Appendix C WILL BECOME EFFECTIVE 60 days after their publication in the Federal Register.

198. IT IS FURTHER ORDERED that, upon approval by the Office of Management and Budget, FCC Form 304 as set forth in Appendix D will supersede FCC Form 494.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary