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

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[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.

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 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

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[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).

[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).

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 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.

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[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.

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 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

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

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]

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[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).

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 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

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[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.

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 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

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[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 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.

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.

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

William F. Caton
Acting Secretary

APPENDIX A -- LIST OF COMMENTING PARTIES

COMMENTS

1. American Telecasting, Inc. (American Telecasting)
2. CAI Wireless Systems, Inc. (CAI Wireless)
3. Caritas Telecommunications (Caritas)
4. Crowell & Moring
5. Dalager Engineering Company (Dalager)
6. du Treil, Lundin & Rackley, Inc. (du Treil)
7. Hammett & Edison, Inc. (Hammett)
8. Hardin and Associates, Inc. (Hardin)
9. Heartland Wireless Communications, Inc. (Heartland)
10. Marshall Communications, Inc. (Marshall)
11. Mitchell Communications Corp. (Mitchell)
12. The National ITFS Association (National ITFS)
13. Pacific Telesis Enhanced Services (PacTel)
14. Pepper & Corazzini, L.L.P. (Pepper)
15. The Richard L. Vega Group (Vega)
16. The Rural Wireless Cable Coalition (Rural Wireless) includes: Central Texas Wireless TV, Inc., Adams Telcom, Inc., Leaco Rural Telephone Cooperative, Inc., Delhi Telephone Company and Valley Telephone Cooperative, Inc.
17. Sioux Valley Rural Television, Inc.
18. South Carolina Educational Television Commission, State of Wisconsin-Educational Communications Board and University of Maine System (ITFS Parties)
19. United States Wireless Cable, Inc. (U.S. Wireless)
20. Vermont Wireless Cooperative (Vermont Wireless)
21. The Wireless Cable Association International, Inc. (Association)

LATE-FILED COMMENTS

1. ACS Enterprises, Inc., Baton Rouge Wireless Cable Television LLC, 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.*)

REPLY COMMENTS

1. ACS Enterprises, *et al.*
2. American Telecasting, Inc. (American Telecasting)
3. CAI Wireless Systems, Inc. (CAI Wireless)
4. Cross Country Wireless, Inc. (Cross Country)
5. Crowell & Moring
6. Hardin and Associates, Inc. (Hardin)
7. Humanities Instructional Television Educational Center, Inc. (Humanities)

8. Multi-Micro, Inc. (Multi-Micro)
9. National Telephone Cooperative Association (Telephone Cooperative)
10. Pepper & Corazzini, L.L.P. (Pepper)
11. The Rural Wireless Cable Coalition (Rural Wireless)
12. United States Wireless Cable, Inc. (U.S. Wireless)
13. University of Arizona
14. The Wireless Cable Association International, Inc. (Association)

LATE-FILED REPLY COMMENTS

1. Applied Video Technologies, Inc.
2. People's Choice TV Corp.
3. Region IV Education Service Center (Region IV)
4. University of Maryland
5. University of Texas

COMMENTS FILED IN RESPONSE TO JULY 28, 1993 PUBLIC NOTICE

1. American Telecasting, Inc.
2. Philip E. Atkinson
3. Amelia N. Backus
4. Leo H. Bond
5. Cardiff Broadcasting Group
6. Eileen Cassidy
7. CellTek
8. Norman Cloutier
9. Coalition of Wireless Cable Operators includes: Air Cable Television Systems, Broadcast Services International, Inc., Continental Wireless Cable Television, Inc., Family Entertainment Network, Inc., Family Entertainment Network Partnership, Green Bay Entertainment Network Partnership, MultiMedia Development Corp., People's Cable, Inc., Rapid Choice TV, Inc., Skyline Entertainment Network, Inc., Wireless Entertainment Network, Inc., and Wireless Entertainment Network Partnership
10. Robert E. Hayes
11. Margaret K. Haynes
12. Byron Homa
13. Richard P. Heuschele, M.D.
14. Arthur C. Larson
15. Lawrence Behr Associates, Inc.
16. Alfred O. Martinson
17. Mt. Pleasant Wireless
18. Multi-Micro, Inc.
19. National Telephone Cooperative Association
20. Paul M. Parks
21. Mary Patterson
22. Zigmund F. Podkowa
23. Elizabeth J. Raudio

24. Arnold Rettig
25. Sioux Valley Rural Television, Inc.
26. Carl Stark
27. Transworld Telecommunications, Inc., Tampa Bay, Inc., Marrco Communications, Inc., United Communications, Ltd. and the Cellular Group
28. Tribune Broadcasting Company
29. United Telephone Mutual Aid Corporation, Pioneer Telephone Cooperative, Inc. and Socorro Satellite Systems, Inc.
30. The Wireless Cable Association International, Inc.
31. Wireless One, L.L.C.
32. WJB-TV Limited Partnership

APPENDIX B -- FINAL REGULATORY FLEXIBILITY ANALYSIS

Pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. § 604, the Commission's final analysis is as follows:

I. Need For, and Purpose of, This Action

The Commission published an Initial Regulatory Flexibility Analysis, *see generally* 5 U.S.C. § 603, within the *Notice of Proposed Rulemaking* in MM Docket No. 94-131. As noted in that initial analysis, this proceeding will streamline the procedures for filing applications in MDS, and thereby expedite the provision of services to the public.

Under the terms of the 1993 Budget Act, the Commission may now utilize competitive bidding mechanisms in the granting of certain initial licenses. The Commission published an Initial Regulatory Flexibility Analysis within the *Notice of Proposed Rulemaking* in PP Docket No. 93-253, and published a Final Regulatory Flexibility Analysis within the *Second Report and Order* in that docket. As noted in that previous final analysis, this proceeding will establish a system of competitive bidding for choosing among mutually exclusive initial MDS applications, and will carry out congressional mandates that certain designated entities be afforded an opportunity to participate in the competitive bidding process and the provision of spectrum-based services.

II. Legal Basis for This Action

Authority for the action taken in this proceeding may be found in 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.

III. Summary of the Issues Raised by the Public Comments in Response to the Initial Regulatory Flexibility Analysis

No comments were submitted in response to our Initial Regulatory Flexibility Analysis for either MM Docket No. 94-131 or PP Docket No. 93-253.

IV. Significant Alternatives Considered

Although, as described in (III) above, no comments were received pertaining to our Initial Regulatory Flexibility Analysis for MM Docket No. 94-131 and PP Docket No. 93-253, the *Second Report and Order* addressed at length the general policy considerations raised as a result of the new competitive bidding legislation. This *Report and Order* considered in detail various alternatives for revising MDS application procedures and implementing competitive bidding for MDS, and the comments submitted on such alternatives.

This *Report and Order* also specifically considered the impact of the provisions adopted on small entities. Overall, the Commission believes that the provisions adopted herein would benefit small entities by employing short-form applications for MDS and by providing certain special incentives to small entities in the competitive bidding process. In addition, the Commission, while authorizing electronic filing, did not make such filing, with its possible associated costs, mandatory for MDS applicants.

APPENDIX C

I. Part 21 of Chapter 1 of Title 47 of the Code of Federal Regulations is amended as follows:

Part 21- Domestic Public Fixed Radio Services

1. The authority citation for Part 21 continues to read as follows:

Authority: Secs. 1, 2, 4, 201-205, 208, 215, 218, 303, 307, 313, 314, 403, 404, 410, 602; 48 Stat. 1064, 1066, 1070-1073, 1076, 1077, 1080, 1082, 1083, 1087, 1094, 1098, 1102, as amended; 47 U.S.C. 151, 154, 201-205, 208, 215, 218, 303, 307, 313, 314, 403, 602; 47 U.S.C. 552, 554.

2. Section 21.2 is amended as follows:

§ 21.2 Definitions.

As used as follows:

* * * * *

Basic Trading Area (BTA). The geographic areas by which the Multipoint Distribution Service is licensed. BTA boundaries are based on the Rand McNally 1992 Commercial Atlas and Marketing Guide, 123rd Edition, pp. 36-39, and include six additional BTA-like areas as specified in § 21.924(b).

BTA authorization holder. The individual or entity authorized by the Commission to provide Multipoint Distribution Service to the population of a BTA.

BTA service area. The area within the boundaries of a BTA to which a BTA authorization holder may provide Multipoint Distribution Service. This area excludes the protected service areas of incumbent MDS stations and the registered receive sites of previously authorized and proposed ITFS stations.

Incumbent. An MDS station that was authorized or proposed before September 15, 1995, including those stations that are subsequently modified, renewed or reinstated.

Partitioned service area authorization holder. The individual or entity authorized by the Commission to provide Multipoint Distribution Service to the population of a partitioned service area.

Partitioned service area (PSA). The area within the coterminous boundaries of one of more counties or other geopolitical subdivisions, drawn from a BTA, to which an authorization holder may provide Multipoint Distribution Service or the area remaining in a BTA upon partitioning any portion of that BTA. This area excludes the protected service areas of incumbent MDS stations and the registered receive sites of previously authorized and proposed ITFS stations.

* * * * *

3A. Section 21.7 is amended to read as follows:

§ 21.7 Standard application form for domestic public fixed radio service licenses.

Except for the Multipoint Distribution Service, * * *

3. Section 21.13 is amended to read as follows:

§ 21.13 General application requirements.

a) * * * * *

(4) Except for applications in the Multipoint Distribution Service filed on or after September 15, 1995, state specifically the reasons why a grant of the proposal would serve the public interest, convenience, and necessity.

(b) Applications in the Multipoint Distribution Service, the Digital Electronic Message Service (DEMS) and the Point-to-Point Microwave Service shall not cross-reference previously filed material. Applications other than for the Multipoint Distribution Service, DEMS and Point-to-Point Microwave Services may cross-reference previously filed material where documents, exhibits or other lengthy showings already on file with the Commission contain information which is required by an application form and may specifically refer to such information, if:

* * * * *

4. Section 21.15 is amended to read as follows:

§ 21.15 Technical content of applications.

* * * * *

(a)(1) Except in the case of applicants for Multipoint Distribution Service stations who filed applications on or after September 15, 1995, applicants proposing a new station location (including receive-only stations and passive repeaters) must indicate whether the station site is owned. If it is not owned, its availability for the proposed radio station site must be demonstrated. Under ordinary circumstances, this requirement will be considered satisfied if the site is under lease or under written option to buy or lease.

* * *

(3) Except for BTA and PSA authorization holders, Multipoint Distribution Service applicants proposing a new station location must certify the proposed station site will be available to the applicant for timely construction of the facilities during the initial

construction period.

* * * * *

(c) Each application involving a new or modified antenna supporting structure or passive facility, the addition or removal of an antenna, or the repositioning of an authorized antenna for a station or receive-only facility (except receive-only facilities in Multipoint Distribution Service and the Digital Electronic Message Service) must be accompanied by a vertical profile sketch of the total structure depicting its structural nature and clearly indicating the ground elevation (above sea level) at the structure site, the overall height of the structure above ground (including obstruction lights when required, lightning rods, etc.) and, if mounted on a building, its overall height above the building. The proposed antenna on the structure must be clearly identified and its height above-ground (measured to the center of radiation) clearly indicated. Alternatively, applicants in the Multipoint Distribution Service who filed applications on or after September 15, 1995 may provide this information in the MDS long-form application.

* * * * *

(e) Except for applicants in the Multipoint Distribution Service who filed applications on or after September 15, 1995, an applicant proposing construction of one or more new stations or modification of existing stations where substantial changes in the operation or maintenance procedures are involved must submit a showing of the general maintenance procedures involved to insure the rendition of good public communications service. The showing should include but need not be limited to the following:

* * * * *

(g) Except for applications in the Multipoint Distribution Service filed on or after September 15, 1995, each application in the Point-to-Point Radio, Local Television Transmission and Digital Electronic Message Service (excluding user stations) proposing a new or replacement antenna (excluding omni-directional antennas) shall include an antenna radiation pattern showing the antenna power gain distribution in the horizontal plane expressed in decibels, unless such pattern is known to be on file with the Commission in which case the applicant may reference in its application the FCC-ID number that indicates that the pattern is on file with the Commission. Multipoint Distribution Service applicants who filed applications on after September 15, 1995 must provide related information in completing an MDS long-form application.

* * * * *

5. Section 21.27 is amended to read as follows:

§ 21.27 Public notice period.

(a) * * * * *

(7) the BTAs designated for licensing through the competitive bidding process and the filing date for short-form applications for those areas;

(8) the auction winners in the competitive bidding process;

* * * * *

6. Section 21.35 is amended to read as follows:

§ 21.35 Comparative evaluation of mutually exclusive applications.

(a) In order to expedite action on mutually exclusive applications in services under this rules part where the competitive bidding process or random selection process do not apply, the applicants may request the Commission to consider their applications without a formal hearing in accordance with the summary procedure outlined in paragraph (b) in this section if:

* * * * *

7. Section 21.41 is amended to read as follows:

§ 21.41 Special processing of applications for minor facility modifications.

* * * * *

(b) * * * * *

(7) In the Multipoint Distribution Service, the modified facility would not produce a power flux density that exceeds - 73 dBW/m^2, pursuant to §§ 21.902 and 21.939 of this subpart, at locations on the boundaries of protected service areas to which there is an unobstructed signal path.

* * * * *

8. Section 21.42 is amended to read as follows:

§ 21.42 Certain modifications not requiring prior authorization.

(a) Equipment in an authorized radio station may be replaced without prior authorization or notification if:

(1) The replacement equipment is identical (i.e., same manufacturer and model number) with the replacement equipment;

(2) For the Multipoint Distribution Service, the replacement transmitter, transmitting antenna, transmission line loss and/or devices between the transmitter and antenna, or

combinations of the above, do not change the EIRP of a station in any direction.

(b) * * * * *

(3) The Commission is notified of changes made to facilities by the submission of a completed FCC Form 494 or for the Multipoint Distribution Service, an MDS long-form application, as applicable, within thirty days after the changes are made.

(4) In the Multipoint Distribution Service, the modified facility would not produce a power flux density at the protected service area boundary that exceeds - 73 dBW/m^2, pursuant to §§ 21.902 and 21.939 of this subpart.

(c) * * * * *

(3) * * *

(i) * * *

(ii) For Digital Electronic Message Service, the new antenna conforms with § 21.906 and the gain of the new antenna does not exceed that of the previously authorized antenna by more than one dB in any direction.

(iii) For the Multipoint Distribution Service, the new antenna conforms with § 21.906 and the EIRP resulting from the new antenna does not exceed that resulting from the previously authorized antenna by more than one dB in any direction.

* * * * *

(d) Licensees may correct erroneous information on a license which does not involve a major change (i.e., a change that would be classified as a major amendment as defined by § 21.23) without obtaining prior Commission approval by filing a completed FCC Form 494, or for the Mutlipoint Distribution Service licensees, by filing the MDS long-form application.

9. Section 21.43 is amended to read as follows:

§ 21.43 Period of construction; certification of completion of construction.

(a) Except for Multipoint Distribution Service station licenses granted to BTA and PSA authorization holders, each license for a radio station for the services included in this Part shall specify as a condition therein the period during which construction of facilities will be completed and the station made ready for operation. * * *

* * * * *

10. Section 21.44 is amended to read as follows:

§ 21.44 Forfeiture and termination of station authorization.

(a) * * *

(1) The expiration of the construction period specified therein, where applicable, or after such additional time as may be authorized by the Commission, unless within 5 days after that date certification of completion of construction has been filed with the Commission pursuant to § 21.43;

* * * * *

11. Section 21.900 is amended to read as follows:

§ 21.900 Eligibility.

* * * * *

(c) * * *

The applicant shall state whether or not service will be provided on a common carrier or non common carrier basis. In addition, a common carrier applicant shall state whether there is any affiliation or relationship to any intended or likely subscriber or program originator.
* * *

12. Section 21.901 is amended to read as follows:

§ 21.901 Frequencies.

* * * * *

(d) * * *

* * * * *

(5) Notwithstanding the provision of § 21.31(a) all applications, except for those filed on or after September 15, 1995, that propose to locate transmission facilities within or within 24.1 kilometers (15 miles) of the border of a Standard Metropolitan Statistical Area (SMSA) will be considered together. * * *

(6) * * *

(7) All applications for frequencies in this band, except for those filed on or after September 15, 1995, must contain a showing of how interference with the operation of adjacent channels will be avoided and what steps the applicant has taken to comply with § 21.902(a) of this part.

* * * * *

13. Section 21.902 is amended to read as follows:

§ 21.902 Frequency interference.

(a) All applicants, conditional licensees, and licensees shall make exceptional efforts to avoid harmful interference to other users and to avoid blocking potential adjacent channel use in the same city and cochannel use in nearby cities. In areas where major cities are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting antenna. Licensees, conditional licensees, and applicants are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(b) As a condition for use of frequency in this service, each applicant, conditional licensee, and licensee is required to:

(1) Not enter into any lease or contract or otherwise take any action that would unreasonably prohibit location of another station's transmitting antenna at any given site inside its own protected service area.

* * * * *

(3) Engineer the system to provide at least 45 dB of cochannel interference protection within the 56.33 km (35 mile) protected service area of any authorized or previously proposed station that transmit, or may transmit, signals for standard television reception.

(4) Engineer the station to provide at least 0 dB of adjacent channel interference protection within the 56.33 km (35 mile) protected service area of any authorized or previously proposed station that transmits, or may transmit, signals for standard television reception.

(5)(i)Engineer the station to limit the calculated free space power flux density to - 73 dBW/m^2 at the boundary of a 56.33 km (35 mile) protected service area, where there is an unobstructed signal path from the transmitting antenna to the boundary; or alternatively, obtain the written consent of the entity authorized for the adjoining area to exceed the - 73 dBW/m^2 limiting signal strength at the common boundary.

(ii) In determining signal path conditions, the following shall be used: a 9.1 meter (30 feet) receiving antenna height, the transmitting antenna height, terrain elevations and 4/3 earth radius propagation conditions.

(6) If a proposed station is within 80 km (50 miles) of the Canadian or Mexican border, the station must be designed to meet the requirements set forth in international treaties.

(c) The following interference studies must be prepared, must be available to the Commission upon request, and may be submitted as part of any application:

(1) An analysis of the potential for harmful interference within the 56.33 km (35 mile) protected service areas of any authorized or previously proposed incumbent station:

(i) if the coordinates of the applicant's proposed transmitter are within 160.94 km (100 miles) of the center coordinates of any authorized or previously proposed incumbent station with protected service area of 56.33 km (35 miles) as specified in § 21.902(d); or

* * * * *

(2) Applicants may design interference studies in any manner that demonstrates the avoidance of harmful interference, as defined in this subpart.

(i) In lieu of interference studies, applicants may submit in accordance with § 21.938 a written statement of no objection to the operation of the MDS station.

(ii) The Commission may direct applicants to submit interference studies of a specific nature.

(3) Except for new stations proposed in applications filed after June 15, 1995, in the case of a proposal to operate a non-colocated station within the protected service area of an authorized, or previously proposed, adjacent channel station, an analysis that identifies the areas within the protected service areas of both the authorized or previously proposed adjacent channel station and the proposed station that cannot be protected as specified in § 21.902(b)(4) and an explanation of why the proposed station cannot be colocated with the existing or previously proposed station.

* * * * *

(5) [Removed.]

(d)(1) Subject to the limitations contained in subsection (e) of this section, each MDS station licensee shall be protected from harmful electrical interference, as determined by the theoretical calculations, for a protected service area of which the boundary will be 56.3255 kilometers (35 miles) from the transmitter site.

(2) As of September 15, 1995, the location of these protected service area boundaries shall become fixed. The center of the circular area shall be the geographic latitude and longitude of the transmitting antenna site specified in station authorizations or previously proposed applications filed at the Commission before September 15, 1995. Subsequent transmitter site changes will not change the location of the 56.3255 kilometers (35 mile) protected service area boundaries.

* * * * *

(f) In addressing potential harmful interference in this service, the following definitions, procedures and other criteria shall apply:

(1) * * * Harmful interference will be considered present when a free space calculation for an unobstructed signal path determines that this ratio is less than 45 dB.

(2) * * * Harmful interference will be considered present when a free space calculation for an unobstructed signal path determines that this ratio is less than 0 dB. * * *

* * * * *

(4) For purposes of this section, the received signal power level $(RSL)_{dBW}$ at the output of the FCC reference receiving antenna is obtained from the following formulas (or an equivalent adaptation):

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

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

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

in which the parameters are defined as follows:

$(RSL)_{dBW}$ is the received power in decibels referenced to one watt.
$(EIRP)_{dBW}$ is the 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.
G_{AR} is the dB gain of the reference receiving antenna above an isotropic antenna (obtained from Figure 1 of this section.)

(5) A determination of signal path conditions shall use a 9.1 meters (30 feet) receiving antenna height, the transmitting antenna height, terrain elevation, and assume 4/3 earth radius propagation conditions.

(6) An application will not be accepted for filing if cochannel or adjacent channel interference is predicted at the boundary of the 56.33 km (35 mile) protected service area of an authorized or previously proposed incumbent station based on the following criteria:

(i) interference calculations shall be made only for directions where there is an unobstructed signal path from the site of a proposed station to the boundary of any protected area.

(ii) calculations of received power levels in units of dBW from the proposed station will be made at one degree intervals around the protected service area.

(iii) the assumed value of the desired signal level at the boundary of an incumbent station shall be - 83 dBW, which is the calculated received power in free space at a distance of 56.33 km (35 miles), given an EIRP of 2000 watts and a receiver antenna gain of 20 dBi.

(iv) harmful interference will be considered to occur at locations along the boundary wherever the ratio between the desired signal level of - 83 dBw and the received power from a proposed cochannel or adjacent channel station is less than 45 dB or 0 dB for cochannel or adjacent channel proposals, respectively.

(7) Alternatively, MDS applications will be accepted on the basis of an executed written interference agreement between potentially affected parties filed in accordance with § 21.938.

(g)(1) All interference studies submitted pursuant to paragraph (c) of this section must be served on all licensees, conditional licensees, and applicants for the stations required to be studied by this section. This service must include a copy of the FCC application and occur on or before the date the application is filed with the Commission.

(2) MDS licensees, conditional licensees and applicants of facilities with 56.33 km (35 mile) protected service areas shall notify in writing the holders of authorizations for adjoining BTAs or PSAs of application filings for modified station licenses, provided the proposed facility would produce an unobstructed signal path to any location within the adjoining BTA or PSA. This service must include a copy of the FCC application and occur on or before the

date the application is filed with the Commission.

(h) For purposes of § 21.31(a) an MDS application, except for those applications filed after June 15, 1995, filed for a facility that would cause harmful electrical interference within the protected service area of any authorized or previously proposed station will be presumed to be mutually exclusive with the application for such authorized or previously proposed station.

* * * * *

14. Section 21.904 is amended to read as follows:

§ 21.904 Transmitter power.

* * * * *

(c)(1) An increase in station transmitter power, above currently-authorized or previously proposed values, to the maximum values provided in subsections (a) and (b) of this section, may be authorized, if the requested power increase would not cause harmful interference to any authorized or previously proposed co-channel or adjacent-channel station with a transmitter site within 80.5 kilometers (50 miles) of the applicant's transmitter site, or if an applicant demonstrates that:

(i) A station, that must be protected from interference, potentially could suffer interference that would be eliminated by increasing the power of the interfered-with station; and

(ii) The applicant requesting authorization of a power increase agrees to pay all expenses associated with the increase in power to the interfered-with station.

* * * * *

15. Section 21.913 is amended to read as follows:

§ 21.913 Signal booster stations.

* * * * *

(b) In addition to the other application requirements of this part, each application for a signal booster station that would retransmit an MDS signal must certify that the proposed booster station site is within the protected service area, as defined in §§ 21.902(d) and 21.934, of the MDS station.

(c) In addition to the other application requirements of this Part, each application for a signal booster station that would retransmit an MDS signal must state in the application that it has prepared a study which demonstrates that the power flux density at the edge of the MDS