

Before the  
Federal Communications Commission  
Washington, D.C. 20554

MM Docket No. 87-13

In the Matter of

Amendment of Part 74 of the  
Commission's Rules Concerning  
FM Booster Stations and  
Television Booster Stations

**REPORT AND ORDER**  
(Proceeding Terminated)

Adopted: July 16, 1987;

Released: August 5, 1987

By the Commission:

**INTRODUCTION**

1. By this *Report and Order*, the Commission amends its FM booster rules to permit substantial increases in the output power of FM booster stations and to eliminate the restriction that such stations may only rebroadcast signals received over-the-air. The regulations and technical standards adopted herein limit the operation of FM booster stations only to the extent that they may not extend service beyond their primary station's 1 mV/m predicted contour nor increase interference to co-channel or adjacent channel stations. The Commission also amends its television translator rules to establish a new television booster service. Under the new rules, licensees of full service television stations may be authorized to operate TV booster facilities within their predicted Grade B service areas in a manner similar to that of FM boosters. These facilities will be authorized only to the licensee of the station being rebroadcast, generally on a noncompetitive basis, and will be subject to the existing regulations regarding television translators and low power television stations. These rule changes will permit more efficient and effective use of on-channel FM and TV booster facilities to provide broadcast service to underserved and unserved areas and populations. These actions also are consistent with the nature and purpose of booster facilities as a means to provide fill-in broadcast service.

**BACKGROUND**

2. FM booster stations are a special class of FM translators<sup>1</sup> that receive the signals of a full service FM station and simultaneously retransmit those signals to areas and populations that are unable to receive satisfactory service from full service stations due to intervening terrain obstructions. FM boosters operate on the same carrier frequency as their primary full service station and may operate with up to 10 watts of output power.<sup>2</sup> They also are restricted to the rebroadcast of signals received directly off-the-air. The purpose of such booster stations is to permit the licensee of a full service FM radio station to fill

in terrain-shadowed areas where its actual coverage zone does not conform to its predicted service area.<sup>3</sup> Under Part 74 of our rules, FM boosters are authorized only to the licensee or permittee of the full service FM station whose signal they rebroadcast and are permitted to serve only areas within the predicted 1 mV/m field strength contour of that station.<sup>4</sup> Under our existing rules, there is no special class of on-channel television booster stations authorized only to the licensee of a primary station to fill in areas within its predicted service (Grade B) contour<sup>5</sup> that would be equivalent to the FM booster service.

3. On June 30, 1986, Brill Media Company, Inc. (Brill), submitted a Petition for Rule Making requesting that the Commission consider two modifications to the FM booster rules that it believed would improve the ability of full service FM stations to provide high quality radio service throughout their licensed service areas and would lead to more efficient use of the spectrum without causing harmful interference to other stations. Brill's first proposal was to permit FM boosters to operate with transmitter output power in excess of the 10 watt maximum that is currently authorized, provided that the 1 mV/m contour of any booster facility not extend beyond the 1 mV/m contour of the primary FM station. However, Brill recognized that this standard alone may not be sufficient to protect against increased interference to co-channel and adjacent channel stations. Accordingly, it proposed limits for booster effective radiated power (ERP) and idealized service radius (ISR), as developed by A.D. Ring and Associates, that it believed would provide adequate protection against increased interference to other co-channel and adjacent channel FM stations. These values represented Brill's assessment of the maximum ERP and ISR values at which a booster could operate without extending a station's service area beyond its predicted 1 mV/m contour or otherwise increasing interference to co-channel stations. The ERP values proposed by Brill are twenty percent of the maximum ERP levels for each class of FM station and the proposed ISR limits assume that a primary FM station might need to use a booster facility to fill in as much as 25 percent of its service area. On this basis, the radius of the 1 mV/m contour of the booster would be half that of the primary station.

4. Brill's second proposal was to permit a primary FM station's signal to be delivered to its booster stations by whatever technical means the licensee deems suitable, not just over-the-air as is currently permissible. It contended that elimination of this restriction would alleviate technical problems inherent in the on-channel retransmission of signals received over-the-air, especially the problem of "feedback," whereby a booster's output signal causes interference to its own input signal. Brill further stated that use of alternative delivery systems would provide a higher quality input signal to boosters, thereby improving the quality of the signals that are rebroadcast and eliminating the need for expensive antenna systems that might otherwise be necessary to receive adequate signals off-the-air.

5. In the *Notice of Proposed Rule Making (Notice)*, the Commission generally agreed with Brill regarding the desirability of modifying the FM booster rules to permit the use of increased power and alternative signal delivery technology.<sup>6</sup> We stated that these proposals appeared to offer a means to facilitate increased use of FM booster stations, to benefit the public interest by expanding opportunities for providing radio service to underserved areas, and to improve the efficiency of spectrum use.

Accordingly, we proposed to amend the FM booster rules in a manner generally consistent with that suggested by Brill. However, our proposal provided a different approach to the regulation of booster output power and coverage than that submitted by Brill and included additional interference protections for stations operating on adjacent channels. We also proposed to permit FM licensees to use aural broadcast auxiliary facilities on a secondary basis to deliver the primary station's signals to its booster facilities.

6. In the *Notice*, we also observed the similarity between FM booster stations and some television translators. Therefore, in conjunction with our consideration of the proposals regarding FM booster service, we proposed to amend our television translator rules to establish a TV booster service that would be equivalent to that for FM boosters. As proposed, TV boosters would be authorized for the purpose of providing service to shadowed areas within the predicted Grade B contour of the primary station being rebroadcast. We also proposed to treat TV boosters generally as a special class of TV translator that would be authorized only to the licensee of the primary television station being rebroadcast and on a noncompetitive basis.

7. The Commission received twenty-eight comments and thirteen reply comments in response to the *Notice*.<sup>7</sup> All of the commenting parties supported the Commission's basic proposals, although many submitted alternative proposals for their implementation. Also, many commenters indicated that they would take advantage of these new booster services, if they become available, in order to reach a greater number of listeners or viewers in their service areas.

#### DISCUSSION

8. Upon examination of the record in this proceeding, we continue to believe that our proposals to provide for expanded operation of FM booster stations and to establish a television booster service would be beneficial to the public interest by expanding opportunities for providing FM service to underserved and unserved populations and improving the efficiency of spectrum use.<sup>8</sup> As set forth below, we will modify our rules to permit higher power FM booster stations and to allow FM licensees to deliver their signals to boosters by means other than direct over-the-air reception. Also, we will authorize the operation of TV booster stations by the licensees of full service television stations. We wish to emphasize we do not intend to alter the fundamental nature or purpose of boosters as fill-in facilities, secondary to full service stations, intended to provide service to areas unable to be reached by their primary stations due to intervening terrain obstructions. Booster stations authorized under the new rules will be required to operate in a manner that preserves the existing service areas of the full service stations they retransmit and will not be permitted to increase the reach of the primary stations beyond those stations' predicted service contours. Further, we are adopting rules and procedures to ensure that these higher power facilities do not increase interference to co-channel and adjacent channel stations in their respective broadcast services.

#### FM BOOSTERS

9. In the *Notice*, we proposed to eliminate the restriction on the maximum permissible output power for FM booster facilities. We proposed alternatively to limit FM booster output power under the general requirement that the predicted 1 mV/m contour of such stations may not extend beyond the area covered by the 1 mV/m contour of the primary station whose signal it rebroadcasts. We also observed that the protected contours of Class B and Class B1 full service FM stations extend to their 0.5 mV/m and 0.7 mV/m contours, respectively.<sup>9</sup> Therefore, we sought comment on whether booster stations should be permitted to provide coverage to the 0.5 and 0.7 mV/m contours of Class B and B1 stations, respectively.

10. We also specified a standard to provide interference protection in terms of desired to undesired signal ratios at the protected contour of co-channel and first, second, and third adjacent channels. Under this requirement, the signal of any co-channel station must exceed the signal of the booster station by 20 dB at all points within the protected contour of the co-channel station and the ratio of the signal of any first, second, or third adjacent channel station to the booster's signal must exceed 6, -40, and -40 dB, respectively, at any location within the protected contours of such stations.

11. Further, we recognized that the rule restricting booster facilities to the retransmission of signals received on-channel, over-the-air from their parent stations prevented the use of boosters in many situations where they could be used to extend FM service to underserved areas. Therefore, we proposed to permit FM licensees to feed their booster stations by whatever technological means they deemed most suitable. In conjunction with this proposal, we sought comment on whether it would be appropriate to permit FM licensees to use aural broadcast auxiliary channels on a secondary basis to transmit their signals to booster stations.

12. *Summary of Record.* Parties commenting on our proposals to enhance FM booster service agree with our initial assessment regarding the benefits of and need for this service. Commenters state that an increase in the permissible authorized power for booster facilities will permit improved reception in shadowed areas and thus increase the available radio service in areas where primary FM service is predicted but not receivable. Several commenters suggest that we expand the definition of an FM booster to include adjacent channel facilities and to permit operation beyond the predicted service area of the primary station. For example, Cohen & Dippell recommends that the booster definition also include first, second, and third adjacent channel facilities in situations where interference is not caused to other FM services. Communications General Corporation (CGC) and Outlet Communications urge that adjacent channel boosters be permitted to enable stations to avoid the artificial multipath that boosters create in areas which already receive a clean signal. In its reply comments, the National Association of Broadcasters (NAB) opposes treatment of adjacent channel facilities as boosters. It argues that co-channel boosters and adjacent channel translators employ different technology and, thus, should be treated differently. Several parties suggest that to emphasize the differences between translators and boosters, we should provide separate rule sections for each service. CGC also comments that we should permit boosters to be located not only in the protected contour of the primary station,

but also inside the simple circular protected contour of the originating station calculated from the nominal ERP and HAAT (height above average terrain) of a non-directional station.

13. Commenters state that boosters used by Class B and B1 stations should be permitted to provide service out to these stations' respective 0.5 mV/m and 0.7 mV/m contours. Brill suggests that the Commission adopt a general rule that states that the predicted primary station service contour may not be exceeded by the corresponding booster contour for each station class. National Public Radio (NPR) notes that noncommercial educational stations on reserved channels are restricted to the 1 mV/m contour regardless of class and argues that, in the interest of uniformity, commercial and noncommercial stations should be treated similarly. It, therefore, contends that booster operations should be limited to the 1 mV/m contour for all stations. With respect to short spaced stations, Brill suggests that for purposes of determining permissible booster service, the predicted service contour of the primary stations be defined as the interference-free service contour of the station. Thus, it recommends that boosters of short spaced stations be permitted to provide service out to the interference-free contour of the primary stations. Eric Chandler Communications of San Diego submits that the current restrictions on the use of boosters by stations operating in excess of the maximum facilities for their respective classes to fill in area between its actual 1 mV/m contour and the predicted contour if it were operating at normal power, as provided in the note to Section 74.1231(h) of the rules, should be retained.<sup>10</sup>

14. In considering authorization of higher power FM booster facilities, we indicated that we were particularly concerned about the potential for increased interference caused by such stations. The *Notice* presented two approaches to interference protection, as discussed above, and requested submission of other alternatives. NPR believes that the standards we proposed would provide adequate safeguards to protect other FM stations, operating on co-channel and adjacent channels from interference. It adds that the Commission's proposals appear to be preferable to those submitted by Brill because, in its view, Brill's proposed ERP limits are unrealistic. NPR submits that the 1 mV/m contour restriction and the necessity to avoid bipath interference between the booster and the primary station would tend to limit booster ERP to much lower levels than those proposed by Brill. Calvary Chapel of Cosa Mesa states that there should be no absolute prohibition against interference to the primary station by the booster and that the balancing of additional coverage against interference to the primary station should be left to the licensee.

15. Brill restates its original position that its proposed service area, ERP and ISR limits will ensure that booster stations do not extend the coverage of the primary station's facilities beyond its predicted service contour, and that booster stations do not interfere with co-channel and adjacent channel stations. Brill states that the standards it proposed were intentionally simplified to avoid requiring applicants to prepare detailed interference studies, and to conserve the Commission's resources required to review such studies. Brill claims that its standards meet or exceed the Commission's proposed requirements because they imply desired to undesired signal ratios for interference created by boosters to the protected contours of other stations of approximately 25 dB or more in the case of

co-channel stations and 54 dB or more in the case of first adjacent channel stations. Brill submits that it did not address second and third adjacent channel interference for several reasons. First, it submits such protection is not included in the existing booster rules. Second, Brill claims that any interference caused by boosters to second and third adjacent channel stations is likely to be *de minimis* in terms of area and population affected. Third, it argues that since boosters will be located in areas where terrain conditions prevent signal coverage from the booster's parent signal, the signals of second and third adjacent channel stations also are unlikely to reach to the edge of their protected contours. Finally, Brill states FM receivers that employ digitally synthesized tuning have reduced the receiver snatching problem associated with strong adjacent channel signals. Brill also suggests that the Commission could use the existing interference protection criteria for FM translators to protect against interference to second and third adjacent channel stations. It contends that these criteria would take into consideration the enhancement to FM coverage provided by boosters while protecting existing service by elimination of any actual interference created by such stations. Brill states that in the event that the Commission determines that it will consider second and third adjacent channel interference at the applications stage, it proposes that the booster applicant be required to demonstrate that the area of interference and the population affected will be less than 0.5 percent of the area and population within the affected station's protected contour. Finally, regarding intermediate frequency separations for stations operating on frequencies 53 or 54 channels apart, Brill submits a table of separations distances for several possible combinations of station classes which it states will avoid overlap of the 20 mV/m and 30 mV/m contours of boosters and other stations in these circumstances, based on the proposed criteria in the *Notice of Proposed Rule Making* in MM Docket No. 86-144.<sup>11</sup>

16. Several commenters recommend the adoption of alternative approaches to interference protection. CGC believes that the studies needed to determine whether a booster facility meets the Commission's proposed interference standards would be burdensome and time-consuming for the licensee. CGC proposes an alternative three step procedure. Under its plan, the applicant first would run a short spacing study and, if the booster met the distance requirements of Section 73.207, no further showing would be required. If it did not meet that test, then the proposal outlined in the *Notice* would be used. In performing this analysis, CGC suggests that the exact predicted contour of the booster be used and that the predicted service contours of all neighboring non-directional stations be assumed to be circular. If the applicant fails to meet these requirements, it would have the option of recasting the calculations by using the exact contour data for all stations involved. A.D. Ring comments that this three step procedure is too complicated.

17. Greater Media is concerned that our proposal does not provide adequate protections against interference to licensees' primary FM station operations and against possible abuse of the FM booster rules. It recommends the following safeguards: (1) predict the 1 mV/m protected contour using the method prescribed in Section 73.313; (2) apply the provisions of Section 73.509 of the rules to determine prohibited contour overlap; and (3) prohibit locating a booster facility within the parent station's blanketing contour as computed according to Section 73.318 in

order to prevent the location of a very high power FM booster at the parent FM station's transmitter site. In its reply, KVOS objects to the application of Section 73.509 because FM signals do not stop at any particular location and, therefore, states that this provision should not be used to arbitrarily declare the presence or absence of an interfering signal. NAB proposes that the Commission relax its proposed Section 74.1235 which states that the protection ratios must be met at any location within the protected contour of an adjacent channel station to permit a *de minimis* limitation to be placed on the area where these criteria may be exceeded.

18. The Association of Maximum Service Telecasters (MST) is concerned about potential interference from educational FM boosters to television channel 6 and states that we should authorize educational FM boosters only to the extent that they cause no interference to Channel 6. MST contends that educational FM boosters, as a secondary service, should not be authorized if they are predicted to cause any interference to television channel 6 service.

19. Many commenters support the proposal to authorize the use of alternative delivery technology. They claim that utilization of such technology would eliminate the problem of feedback and would permit wider use of booster facilities where terrain conditions obscure reception. In a representative statement, CBS comments that as long as the rules insure the primary needs of other broadcasters, deregulation of the mode of feeding such stations is appropriate and consistent with the Commission's policies of eliminating unnecessary technical regulations to "create an environment that encourages innovation and avoids unnecessary and costly rule making." Commenting parties also support our proposal to permit FM licensees to use aural broadcast channels on a secondary basis to transmit their signals to their booster stations. However, the National Broadcasting Company (NBC) states that the rules should clearly indicate the service priorities for these channels in order to avoid problems in the future.

20. *New FM Booster Rules.* As indicated in the record of this proceeding, the existing restrictions on FM booster output power and signal delivery means limit the use of such stations to overcome coverage problems within a full service station's predicted service contour. Consequently, many FM stations located in areas of uneven terrain have been unable to effectively use on-channel boosters to reach shadowed areas within their normal expected service areas. This is inconsistent with our intent to permit licensees to use booster facilities as a spectrum-efficient means to deliver signals to the audiences they are licensed to serve. We find that it is appropriate to modify our rules to provide for expanded use of FM booster stations consistent with the manner proposed in the *Notice*. Accordingly, we will amend our rules to permit FM booster stations to operate with substantially increased power and to be fed input signals by whatever technical means the licensee deems desirable.<sup>12</sup>

21. The revised FM booster technical standards we are adopting will balance our desire to facilitate increased use of booster facilities with our concerns that such stations not cause additional interference to other broadcast services or extend the service areas of their primary stations. These rules, which are a modified version of our initial proposal, will be less complex and burdensome than the approach proposed in the *Notice*. We also wish to emphasize that all determinations regarding service area and

field strengths will be based on predicted values. This comports with our policy that such facilities be authorized to fill in areas of a station's *predicted* service area that cannot be reached due to terrain features.

22. First, we are adopting a general requirement that the predicted service contour of a booster station may not extend beyond the predicted contour of its primary station. As discussed in the *Notice*, the field strength values for determining the predicted service contour of full service FM stations varies by station class. Since each station is considered to be able to serve the area within its predicted service contour, it is appropriate to allow each station class to use boosters to serve the same predicted service contour as that of the full service station they rebroadcast. On this basis, the field strength level to be used for determining the permissible service range of boosters will be the same as that of their parent stations. Thus, for Class A, C, C1, and C2 stations, the 1 mV/m contour of a booster may not extend beyond the 1 mV/m contour of the primary station. For Class B and B1 stations, the respective 0.5 and 0.7 mV/m contours of boosters may not extend the 0.5 and 0.7 contours of the primary station. The predicted contour of a booster station will be calculated using the procedures prescribed in Section 73.313 (a)-(d).

23. As discussed above, boosters are intended only to fill in areas that a primary station cannot reach directly. In order to assure that a substantial amount of primary service is not inadvertently displaced, we will limit the effective radiated power (ERP) of booster stations to 20 percent of the maximum permissible ERP for the class of primary station they rebroadcast.<sup>13</sup> This limit will not hinder the use of boosters to extend service to unserved areas, and will ensure that booster service remains secondary to that of the primary station.

24. However, we caution licensees considering the introduction of high power boosters that the actual permissible ERP of these facilities may be limited by several other factors. Under existing international agreements, FM translator and booster stations may not be authorized with ERP in excess of 50 watts within 199 miles of either the Canadian or Mexican border. Thus, we will limit FM boosters located within these distances of the Canadian and Mexican borders to 50 watts ERP until such time as changes to permit higher power booster stations can be negotiated with these governments. Also, we note that licensees operating FM boosters previously were exempt from submitting environmental assessments concerning hazardous radiofrequency radiation.<sup>14</sup> This exemption was based on the fact that they were limited to 10 watts ERP. Therefore, licensees operating booster facilities with power in excess of the current limitation are cautioned that such boosters will be subject to those standards.<sup>15</sup>

25. In general, we will permit the location of boosters to be determined by the applicant, subject to the conditions that the location chosen is within the primary station's predicted service area, and that the predicted service contour of the booster facility not extend beyond the predicted service contour of its primary station. The only other restriction we will impose on the location of booster facilities is they may not be co-located with the transmitter of the primary station. If we were to permit co-located booster and primary stations, licensees could in effect exceed the maximum power limits for their station class since the output power of the booster and the primary

station would be additive. In this instance, a booster would not be simply providing a secondary fill-in service, as is intended, but would be augmenting the service of the station's primary transmitter.

26. We are particularly concerned that high power boosters not cause interference to co-channel and adjacent channel stations which would exceed that which is currently permissible for full service stations. In the *Notice*, we proposed to establish interference protection standards based on desired to undesired signal ratios of co-channel and adjacent channel stations to that of the booster. We now believe that it is appropriate to modify these standards in order to minimize the administrative burden on licensees and our own resources. The interference protection standards that we are adopting are adequate to ensure that high power booster stations will not interfere with the operation of full service stations, yet will provide for less burdensome requirements for analysis and demonstrations regarding the interference potential of a planned booster. We emphasize that we are not compromising our concern regarding increased interference protection by the changes we are making to our initial proposal.

27. To prevent co-channel interference by boosters to other full service FM stations, we will rely on the protection afforded by our rule that booster service may not extend the service area of the primary station. That is, co-channel protection will be afforded by the restriction that the predicted service contour of the booster may not extend beyond the predicted service contour of the primary station. The predicted service area of the primary station will be determined based on that station's actual facilities.<sup>16</sup> As computed under the rules, predicted service contours of stations operating at maximum facilities for their class are designed to match with the required separation distances between stations that serve to prevent undesirable co-channel interference. We believe this standard will provide adequate co-channel interference protection in cases of stations meeting the minimum separation distance requirements and, in fact, will provide additional protection in cases where a station operates at less than its maximum authorized facilities. We also find there is no need for special provisions where boosters are operated by short spaced FM stations. Boosters operating under the provisions of the new rules are not expected to add to the interference already resulting from the short spaced operation. On this basis, we will permit short spaced FM stations to operate boosters to serve areas within the station's predicted service area in the same manner as stations that meet the normal separation distance requirements.

28. We believe that the licensee is in the best position to determine the appropriate balance between increased coverage from a booster and increased interference to the signal of the full service station and that there is adequate incentive for licensees to seek to avoid interference to areas served by their primary station's signal. Therefore, we will leave judgments regarding interference to the primary station caused by its co-owned booster facilities to the licensee. However, while we are convinced that higher power boosters can be employed usefully in many situations, we also recognize that the proper design of individual boosters will depend on the exact circumstances of the shadowing problems they are intended to overcome. In this respect, we observe that careful attention must be devoted to selection of a booster's site, power, antenna height, and directional pattern to avoid undue disruption to service by the primary station.<sup>17</sup> It is our intention that

boosters not disrupt the existing service of the primary stations and in this context we expect licensees to be diligent in their efforts to maintain their stations' existing service when introducing new booster facilities. On this basis, we will eliminate the existing requirement that applicants for booster facilities submit design statements indicating the steps which will be taken to ensure that service from the primary station will not be degraded.<sup>18</sup> We also believe it is necessary to ensure that service is provided to the principal community the primary station is licensed to serve. Accordingly, we will require that boosters not cause interference to the signal provided by the primary station within the boundaries of the principal community to be served.

29. Our proposal to protect first adjacent channel stations from booster interference by requiring that the ratio of the signal of the adjacent channel station to the booster signal be at least 6 dB within the predicted service contour of the adjacent channel station was based on the signal levels used to determine separation distances for full service stations in MM Docket No. 80-90.<sup>19</sup> We continue to believe that this standard will provide adequate protection to first adjacent channels. We do not concur with Brill that an additional 3 dB of protection is necessary to account for the cumulative effect of the signals of primary stations and their boosters. We acknowledge that evaluating interference by considering only the effect of the booster facility may tend to understate the actual interference because of the cumulative effect of primary and booster station signals. Radio signal propagation is a probabilistic phenomenon, however, and the precise amount of the cumulative effect will vary with the individual circumstances involved. In any event, in the vast majority of instances the cumulative interference effect will be less than 3 dB, and it will frequently be negligible. While a precise accounting of the cumulative effect could be performed on each individual application, such analysis is complex and time-consuming. In light of the fact that the cumulative effect will not increase interference substantially, we believe the best course is to ignore it for the purposes of application preparation and processing. Because boosters are secondary to full service operations, in those rare instances where the cumulative effect may result in interference, it will be the booster station licensee's responsibility to resolve the problem. Accordingly, we will require that boosters may not operate such that the ratio of the signal of any first adjacent channel station to the booster's signal is less than 6 dB at any location within the predicted service contour of the adjacent channel station.

30. We agree with Brill that interference from FM boosters to second and third adjacent channel stations is likely to be less than that which would result from a primary station to another primary station operating on a second or third adjacent channel. We also believe Brill's suggestion to use the existing interference protection standard for FM translators to protect second and third adjacent channel stations from booster interference is an appropriate approach for resolving any interference problems that may arise.<sup>20</sup> This rule provides that operation of FM translators is permissible only where they cause no harmful interference to the direct reception by the public of the off-the-air signals of any authorized broadcast station. For purposes of this rule, harmful interference is deemed to occur where the Commission receives a significant number of complaints. We believe this standard, in conjunction with the limits we have set on the maximum

ERP allowed for the booster station, will be sufficient to prevent interference to second and third adjacent channel stations. Because boosters generally will be located in areas characterized by large and abrupt variations in terrain and where the density of full service stations is likely to be low, it is unlikely that their signals will interfere with second and third adjacent channel stations. However, where such interference does occur, it will be the responsibility of the booster operator to correct it in order to continue to use the facility.

31. We also conclude that it is necessary to set standards to protect against increased interference to stations that are 53 or 54 channels removed from the booster station (intermediate frequency separations). With respect to this interference concern, we believe it is appropriate to treat boosters the same as their full service station equivalents. The applicable separations will depend on the characteristics of the particular booster station. Full service station equivalents will be based on the booster ERP and HAAT.<sup>21</sup> The required separation distances between boosters and protected full service stations on channels 53 or 54 away will be those provided in Section 73.207, with boosters treated according to their equivalent class of full service station.<sup>22</sup>

32. We recognize MST's concerns for possible interference from higher power FM boosters operating frequencies in the band reserved for noncommercial service to television channel 6. We find that the existing Section 74.1203(a) technical standards for preventing interference by FM translators to other broadcast stations are adequate to protect against interference to television stations operating on channel 6. Our modification to Section 74.1203(a) to apply its provisions to FM boosters as well as translators also will serve to protect channel 6. We will expect applicants for noncommercial boosters operated at higher power to pay particular attention to the potential for interference to channel 6 and to ensure that they comply with the provisions of Section 74.1203(a) of the rules. When such interference would occur, the FM licensee would still have the option of applying for a translator on another frequency.

33. We recognize that these standards may impose a burden on licensees seeking authorization to operate booster facilities because extensive engineering analyses may be needed to demonstrate that all the interference protection requirements are met. As some commenters observed, these in-depth analyses are not necessary where the proposed booster meets the separations distances of an equivalent full service station. Therefore, where an applicant can show that the signal of its proposed booster station will not extend beyond the primary station's predicted contour and the booster meets the separation distances specified for an equivalent full service station's class, we will not require contour studies. In such cases, this more limited showing will be acceptable as a demonstration that the proposed booster will not increase interference to other stations.

34. Finally, we find that the over-the-air signal delivery rule, which is intended primarily to regulate translators that operate with different transmit and receive frequencies, serves no useful purpose in the context of booster stations that operate exclusively within the normal predicted service contour of their primary station. In fact, as discussed above, it appears that this rule hinders the placement and operation of spectrum-efficient booster stations in a manner that is contrary to our purposes in authoriz-

ing such stations. Accordingly, we will eliminate the restriction that FM boosters may retransmit only signals received off-the-air and will permit FM licensees full discretion to feed their primary stations' signals to boosters by whatever technical means the licensee deems suitable. We believe that this change to our rules will facilitate a substantial increase in the use of such stations consistent with their intended purpose as a fill-in service. In conjunction with this action, we also will permit FM licensees to use aural broadcast auxiliary channels (intercity relay stations) on a secondary basis to transmit their primary station's signals to their booster stations.<sup>23</sup> As boosters provide secondary service, we believe it is also appropriate that use of auxiliary facilities with boosters be secondary to their use in conjunction with full service stations. These channels are likely to be unused and, therefore, available in many smaller markets and remote areas where booster service is needed and their use in booster service would constitute an efficient use of the spectrum. Accordingly, we will modify our aural broadcast auxiliary rules to: 1) expand the definition of an aural broadcast intercity relay station to include a reference to its use for the transmission of program material between FM stations and their booster facilities; 2) authorize the transmission of program material between qualified FM stations and their booster stations; and, 3) modify the licensing requirements for such aural broadcast intercity relay stations. Further, FCC Form 313 will be modified to indicate that FM licensees may use these channels to feed their booster stations.

35. In order to implement the new FM booster rules, we will amend several forms to authorize booster facilities according to the technical standards we are adopting herein. FCC Forms 349-P and 349-L, applications for FM booster construction permits and licenses, respectively, will be revised to reflect the new FM booster rules.<sup>24</sup> FM booster licenses will continue to run concurrently with those of their primary stations.<sup>25</sup> However, we will no longer require separate renewal filings for booster facilities. Therefore, we will eliminate the booster renewal form, FCC Form 349-R, and include the renewal of FM booster stations with those of their primary stations on FCC Form 303-S by adding a question requesting identification of the relevant booster stations. Also, licenses for booster stations will be included in transfers or assignments of the licenses of their primary stations. Accordingly, we will amend FCC Forms 314, 315, and 316, the applications for transfers or assignments of licenses as prescribed in Section 73.3540 of the rules.<sup>26</sup> These changes to our administrative procedures are subject to approval by the Office of Management and Budget (OMB). For this reason, we will not be able to process booster applications until the relevant application forms are ready for distribution.<sup>27</sup> Further, we recognize that it is possible that applications for new and modified booster facilities to be mutually exclusive with FM translator or other FM booster applications. Where mutually exclusive applications are received, they will be granted on a first come, first serve basis or, alternatively, the applicants may work out a solution themselves. We will not conduct competitive hearings for mutually exclusive cases involving boosters and translators. We do not believe it appropriate to expend the resources needed to bring conflicts for secondary facilities to hearing.

## TV BOOSTERS

36. In considering modifications to our FM booster rules, we recognized the similarity between the purpose and function of FM booster stations and some television translator stations.<sup>28</sup> In the *Notice*, we indicated that we believed that it would be appropriate and desirable to consider authorizing a special class of on-channel television translators, equivalent to FM boosters, to permit full service television stations to provide fill-in service to areas within their predicted services contours that cannot be reached directly by their signals due to intervening terrain obstructions.<sup>29</sup> We stated that the proposed TV booster service would enable television stations to reach a greater portion of the audiences they are licensed to serve than is currently possible. We also observed that the proposed service would further spectrum efficiency because television boosters would be authorized to use the same frequency as that of the full service station they rebroadcast.

37. Under our proposal, a licensee or permittee of a full service television station would be authorized to operate on-channel booster stations for the purpose of simultaneous retransmission of their primary station's signals to areas within that station's predicted Grade B contour that cannot be reached directly. The location of TV booster facilities would be limited to the predicted Grade B contour of their parent stations and they would be prohibited from providing Grade B or higher level service beyond that service area. We also proposed to subject TV booster stations to the standards already included in the television translator and low power television (LPTV) station rules that protect existing full service, translator, and LPTV stations from co-channel and adjacent channel interference.<sup>30</sup> We proposed further to grant TV booster station licenses only to the licensee or permittee of the station to be rebroadcast and generally to exempt such licensees from the competitive applications process.

38. *Summary of Record.* Commenters generally agree with our assessment of the need for TV booster service and believe that it will be useful in providing service to unserved and underserved areas.<sup>31</sup> They observe that a TV booster service would enable licensees to provide service to areas within their predicted Grade B contours where reception is otherwise nonexistent or substantially diminished by terrain interference. Commenters state that on-channel TV booster service would provide spectrum-efficient means for television stations to conform their actual signal coverage to their predicted coverage area and to reach a greater proportion of the audience they are licensed to serve. As Ralph C. Wilson Industries (Wilson) observes, many licensees are unable to provide an adequate signal to the entire area they are authorized to serve because of terrain problems and TV boosters would help rectify such inefficiencies which are inherent in these areas. Joint comments filed by Diversified *et al.* (Diversified) note that TV boosters would be more efficient than translator facilities, which operate on a different channel than their parent station, because boosters do not affect the availability of spectrum for other television service and permit the primary station to identify its service with a single channel number.

39. Most commenters addressing our proposal to establish a TV booster service find the restrictions that these facilities be limited to retransmission of the primary station's signal on-channel appropriate. They also concur that TV boosters be located only within the primary station's predicted Grade B contour and may not extend the sta-

tion's service area. However, a few commenters suggest alternatives to these restrictions. Cohen & Dippell state that in areas of weak primary station reception the booster concept should be expanded to include relevant adjacent channels. Shenandoah Valley Educational Television Corporation (SVETC), MST, and H&C Communications comment that we should not foreclose the use of TV boosters to provide service to areas outside the Grade B, provided the booster would not cause greater interference to other stations than the primary station's existing facilities would cause. Additionally, H&C suggests that co-channel boosters could be used beyond the primary station's predicted contour, in lieu of translators, thereby conserving spectrum space for additional translators. Several commenters agree that TV boosters should be generally limited to the predicted Grade B service area of their primary stations, but submit that some exceptions should be considered. King Broadcasting believes that we should allow extended booster operations on a secondary, case-by-case basis. Mark III Broadcasting requests that the Commission extend TV booster authority to provide for their operation by UHF stations beyond the Grade B contour of the primary station subject to appropriate noninterference conditions. Mark III believes this approach would be reasonable because UHF stations are competitively disadvantaged by their innate inability to serve their entire market, or area of dominant influence (ADI), which is commonly defined by a dominant VHF station in the same market.

40. Spartan Radiocasting, Tribune Broadcasting, and Arch Communications state that our proposal to subject TV boosters to the same technical rules applied to TV translator and LPTV stations would limit the television boosters output power as specified in Section 74.735 and would be at odds with the rationale for initiating booster service. Spartan also claims that under these rules there would be no incentive to switch from its existing translators to more efficient boosters. Several parties contend that the *Notice* is unclear as to whether the signal of the primary station may be transmitted to their booster facilities by the same delivery systems that may be used for television translators, as specified in Section 74.731(b). These parties recommend that the new rules be clarified to indicate that television licensees have the same discretion regarding methods of program delivery to boosters as FM licensees.

41. Commenters generally agree with our tentative conclusion in the *Notice* that application of the television translator and low power television interference standards would adequately prevent undue interference to other television stations. These parties state that these standards have worked well for translators and LPTV and if applied to boosters will provide adequate safeguards against interference from boosters.<sup>32</sup> However, Schwartz, Woods & Miller (Schwartz) states that the translator/LPTV interference standards are too detailed. It contends that if the service contour of the booster is to be wholly contained within the service contour of the primary station, as would be required by proposed Sections 74.731 and 74.732, by definition there would be no threat of increased interference to any other signal. Schwartz argues that the interference potential of the booster station would be subsumed within the interference potential of the parent station. It further states that a booster station would automatically provide the protection to existing translators and LPTV stations envisioned by Section 74.703(a). Also, it submits that the co-channel or adjacent channel inter-

ference contemplated by Section 74.703(b) could not occur because normal separations requirements would preclude the existence of protectable signals in the area of the primary station. Finally, Schwartz states that Sections 74.705(c) and 74.707 are not appropriate because boosters must be located within the protected contour of the primary station and could not possibly be within the protected contour of another station.

42. In the *Notice*, we proposed to require each applicant for a booster station facility to include a statement describing how it would ensure that the booster operation would not degrade areas of service from the primary station. Wilson states that this submission would provide further assurance against possible degradation of service. Great Trails Broadcasting believes licensees should be required to demonstrate a net increase in the area in which their signals would be received in the design statement, but that there should be no requirement for a special showing of how the booster will be operated. NAB believes that the filing of a special statement or study on the potential for interference is redundant and unnecessary because a primary station would not install a booster without considerable attention to coverage and interference implications. In a related matter, numerous commenters observe that there is a discrepancy between our statement in the *Notice* that decisions balancing additional coverage and interference from the booster facility within the Grade B contour of the primary station should rest with the licensee and proposed Section 74.703(b) which they feel could be construed to require the complete elimination of any interference by a booster station to the reception of the primary station's signal. These commenters recommend that flexibility be adopted regarding this matter. They submit that the responsibility of protecting one's own primary station should be up to the licensee. They also state that any significant loss of reception by viewers of the primary station will place the licensee at a competitive disadvantage and will create an incentive to avoid such interference.

43. The California Broadcasters Association (CBA), Univision, Wilson, and SICC state that strict application of rules to TV booster stations will prevent television booster authorization, in areas where technical noncompliance with the rules may cause no interference to existing stations. They argue that applicants for booster stations should be allowed to demonstrate that interference will not in fact occur where predicted, and that they should be authorized if the predicted interference is shown to be illusory, despite the specific requirements of the translator/LPTV rules. SICC notes that the translator/LPTV rules, boosters would be prohibited from causing co-channel interference that is acceptable for the primary station. In order that a booster may function as a true extension of the primary station, SICC urges the Commission to make clear that booster operations which meet, but do not exceed, the primary station's predicted interference levels will be permitted.

44. Commenting parties support our proposal to restrict authorization of TV boosters to the licensee or permittee of the full service station being rebroadcast. H&C, Diversified, and Great Trails concur with our view that TV booster facilities should be considered as technical enhancements of the television station being rebroadcast, permitting the parent station to provide service throughout the area it is licensed to serve. Schwartz, the New Jersey Public Broadcasting Authority (NJPA), and MST

submit that the question of interference between the parent and booster stations can be more effectively and flexibly resolved where the two are co-owned. MST notes that LPTV and translators are available to other parties. Schwartz seeks one exception to the primary station ownership limitation. It recommends that the Commission make a provision for groups specifically authorized by the full service station to retransmit its signal to operate boosters under the aegis of the primary station licensee. Under this proposal, groups, such as translator clubs, tax districts or other government units would be subject to the primary licensee's determinations with respect to all technical and operating matters. In its reply, NAB opposes Schwartz's proposal and states that with the exception of large, well staffed stations, licensees could not adequately supervise the operation a nonprimary station booster facility.

45. Regarding our proposal to exempt television licensees who propose to establish booster facilities from the competitive applications process, several parties comment that insulation of booster proposals from the competitive process is essential to facilitating expeditious authorization and implementation of booster operations which will enhance significantly a licensee's service to the public. NAB concurs with our assessment that *Ashbacher* does not apply in this situation.<sup>33</sup> It states that the basic nature of booster operation seems to preclude any realistic opportunity for alternative operation by other applicants.

46. Arch and Tribune note that the *Notice* is silent regarding fees to be charged for processing TV booster applications. They contend that such applications will not tax the Commission's resources in the same manner as other translator applications. Therefore, these commenters suggest that the fee for TV booster applications should be \$75 since they resemble "license to cover" applications for television translators and LPTV facilities and will not require extensive technical review by the Commission.

47. *New TV Booster Service*. After consideration of the record before us, we believe that it would serve the public interest to establish a new TV booster service. This new service will provide a valuable means for extending television service to areas that are unable to receive service from a particular full service station due to intervening terrain obstructions. While they may not be suitable for use by all stations that experience shadowing, particularly in the case of VHF stations, such boosters will enable television stations to reach a greater portion of the audiences they are licensed to serve than is currently possible through the use of translator stations. Further, this new service will provide a spectrum-efficient means for television stations to maximize their reach within their predicted service contours because the boosters will use the same frequency as the primary station they rebroadcast. In order to establish the authority for TV boosters and provide regulation for the use and operation of these new facilities, we will add the definition of "television broadcast booster station" to Subpart G, Low Power TV and TV Translator Stations, and incorporate the rules for their operation within that subpart.<sup>34</sup>

48. The new rules will provide that a licensee or permittee of a full service television station may be authorized to operate booster facilities to receive its signal by any technical delivery system acceptable for translators and LPTV stations and simultaneously retransmit that signal on the same frequency as that assigned to the primary station.<sup>35</sup> However, as TV boosters, like FM boosters, will provide



secondary service, use of TV auxiliary facilities in conjunction with TV booster service will be on a secondary basis. We do not expect that this secondary use provision will generally limit use of auxiliary facilities with boosters, as boosters are likely to be used in areas where the density of full service stations is low. Booster facilities will be permitted to be located only within the predicted Grade B contour of the primary station and will not be permitted to be used to extend that predicted service area. That is, boosters may not provide Grade B or higher level service beyond the predicted Grade B contour of the primary station.<sup>36</sup> In addition, licensees will not be permitted to use TV boosters to establish point-to-point relay systems. Further, booster facilities will be subject to the technical specifications set forth for TV translators and LPTV stations, including the existing limits on output power.<sup>37</sup> These provisions are consistent with our intention that TV boosters function essentially as on-channel translators that fill in shadowed locations within a station's licensed service area.

49. We do not believe that it is appropriate to broaden the definition of a TV booster as requested by some commenters. In particular, we are rejecting the several suggestions that we authorize first, second, or third adjacent channel boosters or that we permit boosters to operate beyond the predicted Grade B contours of their primary stations. We believe that to adopt either of these proposals would contradict the intent of booster stations solely as a spectrum-efficient, fill-in service to assist licensees in maximizing their reach within their predicted service areas. The type of service that could be provided by adjacent channel boosters or by such facilities beyond the primary station's Grade B contour is available to licensees and others as part of the existing translator service.

50. At this time, we also do not believe that it is appropriate to authorize TV boosters with output power levels higher than those permitted translators under existing rules. We are currently monitoring the operation of three high power transmitters providing translator service as an experiment in Ponce, Puerto Rico.<sup>38</sup> Based on the Ponce test, we may determine later that high power TV booster stations are appropriate and propose to amend the rules accordingly.

51. In the *Notice*, we proposed to treat TV booster stations as on-channel translators and to subject these facilities to the technical standards already included in the television translator/LPTV rules that protect full service stations from co-channel and adjacent channel interference. We find that the record supports adoption of this proposal. Accordingly, we will adopt our proposal regarding the applicable interference standards for television booster stations. Booster stations will be subject to all of the restrictions affecting the operation of television translators and we will revise the translator/LPTV rules to reflect this fact.<sup>39</sup>

52. One of the proposals in the *Notice* was to require licensees seeking authorization for a booster station to submit a statement describing the steps that would be taken in the design and location of the proposed station to ensure that its operation would not degrade areas of service from the primary station. Upon further consideration of this proposal, we now believe that this requirement is unnecessary. As with FM boosters, we believe that a TV licensee's economic incentives will lead it to take the measures necessary to avoid interference to service by the

primary station. However, we again emphasize that it is our intention that boosters not disrupt existing service by the primary station and in this context we expect television licensees also to be diligent in maintaining existing service when introducing new booster service. Accordingly, we will not adopt the proposal to require the submission of a design statement.

53. We will authorize TV booster stations only to the licensee or permittee of the full service station whose signals they retransmit. The service that will be provided by TV boosters will be part of the service a full service station is licensed and assumed to be providing. In this respect, we view TV boosters as a technical extension of the television station being rebroadcast. We do not believe it is desirable to license boosters to third parties under the auspices of the licensee as suggested by some commenters. We believe that in order to facilitate efficient resolution of any interference problems or other problems that may arise, it is necessary for the primary station to retain full control over its assigned frequency within its service area.

54. We proposed to exempt booster station authorizations from the competitive applications process. We indicated that this action appeared consistent with our belief that it is most appropriate to limit authorization of this service to the licensee of the relevant primary station and that it would permit us to expedite the implementation of TV booster service. However, upon further consideration of this issue, we recognize that there may be situations where such applications conflict with other pending applications for translator or LPTV facilities. The automatic authorization of a booster in such cases could force the pending applicants to re-engineer their proposals. Revisions to translator and LPTV applications could also have an adverse impact on existing daisy chains, necessitating massive reprocessing of applications and further delaying the implementation of service.

55. In view of these considerations, we find that the most appropriate approach is to treat applications for booster facilities in a manner similar to that which is applied to displaced translators.<sup>40</sup> Applications for TV boosters will be accepted at any time. If a booster application is not mutually exclusive with any other applications for booster, translator, or LPTV stations, and is otherwise consistent with the rules for TV booster operation, it will be granted noncompetitively subject only to Petitions to Deny. If the application is mutually exclusive with other pending applications, it will be included in the relevant competitive lottery. Finally, if a booster application is submitted after an application filing "window" and it would be mutually exclusive with a translator or LPTV application filed thereunder, it will be dismissed as an untimely filing. This policy is consistent with our approach to regulation of TV boosters as a special type of translator.<sup>41</sup>

56. As we stated in the *Notice*, exemption of TV boosters from the competitive applications procedures appears not to be barred by *Ashbacker* considerations.<sup>42</sup> *Ashbacker* holds that applicants whose proposals are mutually exclusive, as defined by the Commission rules, are entitled to comparative consideration of their applications. In that case, the applicants sought to operate on a channel that was generally available for use. In contrast, TV booster stations will not be similarly available for general use as the channels on which such stations will operate are licensed to the primary stations. Further, as established in *U. S. v. Storer*, 351 U.S. 192 (1956), we have authority to

promulgate rules limiting eligibility to apply for newly authorized facilities in circumstances where, in our determination, such action promotes the public interest, necessity, and convenience.<sup>43</sup> We find that this new TV booster service promotes the public interest, necessity, and convenience consistent with such circumstances. Additionally, as booster facilities are technical extensions of their primary stations, we believe that this policy is consistent with the similar modifications adopted to permit licensees to upgrade their service in order to better serve their audiences.<sup>44</sup>

57. FCC Forms 346 and 347 will be modified to permit their use for applications for TV booster construction permits and licenses, respectively. As is the practice for FM booster stations, we will make the renewal of TV booster authorizations concurrent with that of the primary station. Also, licenses for booster stations will be included in transfers or assignments of the licenses of their primary stations. Therefore, we will revise the broadcast station renewal application form (FCC Form 303-S) to solicit the identification of the TV booster stations for which the licensee also is seeking renewal. Similarly, where a TV booster station authorization is to be assigned or transferred in conjunction with a primary station assignment or transfer, the TV booster station can simply be identified or listed in that application (Section I, Question 2, FCC Forms 314 and 315; Question 7, FCC Form 316). Actual authorization of TV booster stations will be delayed until we receive OMB approval of the revised forms. At this time, applicants will not be charged a fee for submission of an application for TV boosters.<sup>45</sup> We do not have the authority to institute fees for services that were not included in the Schedule of Charges added as new section 8 to the Communications Act of 1934, as amended.<sup>46</sup> As we observed in the *Fee Order*, specific fees are established by statute and may be changed only through an act of Congress. As part of our implementation of this statute, however, we will monitor processing costs and present suggested modifications to Congress within two years of their initial implementation.<sup>47</sup> At that time, we will consider whether to recommend to Congress the suggestion of several commenters that an appropriate fee for such applications would be \$75.

### PROCEDURAL MATTERS

58. Pursuant to the Regulatory Flexibility Act of 1980, the Commission's final analysis is as follows:

#### I. Need for and purpose of the rules.

The Commission is adopting modifications to its FM booster and television translator rules in order to increase the available broadcast service in areas that are unserved or underserved. By permitting FM booster stations to increase their authorized power and to retransmit signals received by any technical means the licensee deems suitable, we will eliminate several problems associated with the distribution of radio service to areas that cannot be reached directly by an over-the-air signal. The authorization of on-channel TV boosters, equivalent of FM booster stations, will increase television service to areas that are currently underserved in an administratively expeditious manner.

II. Summary of issues raised by public comment in response to the initial regulatory flexibility analysis, Commission assessment, and changes made as a result.

A. *Issues Raised.* No commenting parties raised issues specifically in response to the initial regulatory flexibility analysis. However, a number of commenters were concerned that the procedures proposed for an applicant to employ to demonstrate that a proposed FM booster facility would not cause additional interference to other services were too complex. Further, commenters indicated that the licensee of the full service station, either FM or television, whose signal would be rebroadcast by the booster facilities should be responsible for determining the appropriate balance between additional coverage and interference to the primary station and, thus, the proposed submission of a design statement was an unnecessary burden.

B. *Assessment.* Our reexamination of our initial proposals, in light of the comments received, indicated that some modifications to our proposals are appropriate for meeting our objective of balancing increased broadcast service with our desire to minimize the administrative burden of implementing that service.

C. *Changes made as a result of comments.* As a result of the comments in this proceeding, we are adopting alternative, simplified standards for FM licensees to demonstrate that their proposed booster facilities will not increase interference to other stations. Further, in the rules we are adopting, judgments balancing interference to the primary station with increased service from booster stations will be left to the licensee and a design statement will not be required.

#### III. Significant alternatives considered and rejected.

We have considered the proposals in the *Notice* and the comments in this proceeding. After full consideration of all of the issues raised throughout the course of this proceeding, we have adopted the rules and technical standards that we believe are the most reasonably fashioned in light of the facts and issues presented.

59. The rules contained herein have been analyzed with respect to the Paperwork Reduction Act of 1980 and found to impose new or modified requirements or burdens on the public. Implementation of any new or modified requirement or burden will be subject to approval by the Office of Management and Budget as prescribed by the Act.

60. The Secretary shall cause a copy of this *Report and Order*, including the Final Regulatory Analysis, to be sent to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with Paragraph 603(a) of the Regulatory Flexibility Act (Pub.L. No. 96-354, 94 Stat. 1164, 5 U.S.C. § 601 *et seq.*, (1981)).

61. Accordingly, IT IS ORDERED that under authority contained in Sections 4(j) and 303 of the Communications Act of 1934, as amended, Parts 73 and 74 of the Commission's rules and regulations ARE AMENDED as set forth in Appendix B below. These rules and regulations ARE EFFECTIVE September 21, 1987.

62. IT IS FURTHER ORDERED that this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico
Secretary

APPENDIX A

List of Commenters

Initial Comments

- 1. National Broadcasting Company, Inc.
2. Jeffrey Chandler, President, KKOS-FM/KVSD-AM
3. Joint Comments of Diversified Communications, Family Stations, Inc. and Providence Journal Company
4. Family Stations, Inc.
5. Tribune Broadcasting Company
6. Arch Communications Corp.
7. Winfas of Virginia, Inc.
8. New Jersey Public Broadcasting Authority
9. Schwartz, Woods & Miller on behalf of Arizona State University, Channel 5 Public Broadcasting, Connecticut Public Broadcasting, New Jersey Public Broadcasting Authority, Santa Clara County Board of Education and University of North Carolina
10. Greater Media, Inc.
11. Brill Media Company, Inc.
12. H&C Communications, Inc.
13. Shamrock Broadcasting, Inc.
14. Ralph C. Wilson Industries, Inc.
15. Univision, Inc.
16. Communications General Corporation
17. Outlet Communications, Inc.
18. Western Broadcasting Corporation of Puerto Rico
19. CBS Inc.
20. National Public Radio
21. Mark III Broadcasting Company, Inc.
22. Association of Maximum Service Telecasters, Inc.
23. National Association of Broadcasters
24. Spanish International Communications Corporation
25. Spartan Radiocasting Company
26. WATH, Incorporated
27. King Broadcasting Company
28. Shenandoah Valley Educational Television Corporation

Reply Comments

- 1. California Broadcasters Association
2. National Association of Broadcasters
3. Association of Maximum Service Telecasters
4. Great Trails Broadcasting Corporation
5. Cohen and Dippell, P.C.
6. Univision, Inc.

- 7. Ralph C. Wilson Industries, Inc.
8. Spanish International Communications Corporation
9. Calvery Chapel of Costa Mesa, Inc.
10. A.D. Ring & Associates, P.C.
11. KVOS, Inc.
12. Pikes Peak Broadcasting Company
13. Eric Chandler Communications of San Diego, Inc.

APPENDIX B

Parts 73 and 74 of Title 47 of the Code of Federal Regulations are amended to read as follows:

1. The authority citations for Parts 73 and 74 continue to read as follows:

Authority: 47 U.S.C. 154 and 303.

2. Section 73.1001 is amended by revising paragraph (c) to read as follows:

§73.1001 Scope.

\*\*\*\*\*

(c) Certain provisions of this subpart apply to International Broadcast Stations (Subpart F, Part 73), Low Power TV, TV Translator and TV Booster Stations (Subpart G, Part 74) where the rules for those services so provide.

3. Section 73.1010 is amended by revising paragraph (e)(5) to read as follows:

§73.1010 Cross reference to rules in parts.

\*\*\*\*\*

(e) \* \* \*

(5) Subpart G, Low Power TV, TV Translator and TV Booster Stations;

\*\*\*\*\*

4. Section 73.3500 is amended by renaming Form 346; renaming Form 347; and removing Form 349-R and its title, Application for Renewal of FM Booster Station License, to read as follows:

§73.3500 Application and report forms.

Table with 2 columns: Form number, Title. Row 1: 346, Application for Authority to Construct or Make Changes in a Low Power TV, TV Translator, TV Booster or FM Booster Station.

347

Application for a Low Power TV,  
TV Translator, TV Booster,  
or FM Translator Station License.

5. Section 73.3521 is amended to read as follows:

**§73.3521 Mutually exclusive applications for low power television, television translators and television booster stations.**

When there is a pending application for a new low power television, television translator, or television booster station, or for major changes in an existing station, no other application which would be directly mutually exclusive with the pending application may be filed by the same applicant or by any applicant in which any individual in common with the pending application has any interest, direct or indirect, except that interests or less than 1% will not be considered.

6. Section 73.3522 is amended by revising paragraph (a) to read as follows:

**§73.3522 Amendment of applications.**

(a) Predesignation amendment. (1) Subject to the provisions of 73.3525, 73.3571, 73.3572, 73.3573, and 73.3580, and except as provided in paragraph (a)(2) of this section, any application, other than an application for a low power TV, TV translator station, TV booster or a non-reserved band FM station may be amended as a matter of right prior to the adoption date of an order designating such applications for hearings, merely by filing the appropriate number of copies of the amendments in question duly executed in accordance with §73.3513. If a petition to deny (or to designate for hearing) has been filed, the amendment shall be served on the petitioner.

(2) Subject to the provisions of 73.3525, 73.3571, 73.3572, 73.3573 and 73.3580, and except for applications for low power TV, TV translator stations, TV booster or non-reserved band FM station, mutually exclusive broadcast applications may be amended as a matter of right by the date specified (not less than 30 days after issuance) in the FCC's Public Notice announcing the acceptance for filing of the last-filed mutually exclusive application. Subsequent amendments prior to designation of the proceeding for hearing will be considered only upon a showing of good cause for late filing or pursuant to § 1.65 or §73.3514. Unauthorized or untimely amendments are subject to return by the FCC's staff without consideration.

(3) Subject to the provisions of 73.3525, 73.3572, and 73.3580, and except as provided in paragraph (a)(4) of this section, any application for a low power TV, TV translator and TV booster station may be amended at any time.

(4) No applicant for a low power TV, TV translator or TV booster station which is mutually exclusive can improve its status with respect to §1.1622 by amendment of its application subsequent to the release of the initial Public Notice announcing the public lottery that will resolve the applicant's mutual exclusivity pursuant to § 1.1601 *et seq.*, not withstanding the requirements of § 1.65.

(5) Paragraphs (b) and (c) of this section are not applicable to applications for low power TV, TV translator stations, or TV booster stations.

\*\*\*\*\*

7. Section 73.3533 is amended by revising paragraph (a)(6) to read as follows:

**§73.3533 Application for construction permit or modification of construction permit.**

(a) \* \* \*

(6) FCC Form 346, "Application for Authority to Construct or Make Changes in a Low Power TV, TV Translator, TV Booster or FM Translator Station."

8. Section 73.3536 is amended by revising paragraph (a)(5) to read as follows:

**§73.3536 Application for license to cover construction permit.**

(a) \* \* \*

(5) FCC Form 347, "Application for a Low Power TV, TV Translator, TV Booster, or FM Translator Station License."

9. Section 73.3564 is amended by revising paragraphs (a) and (c) to read as follows:

**§73.3564 Acceptance of applications.**

(a) Applications tendered for filing are dated upon receipt and then forwarded to the Mass Media Bureau, where an administrative examination is made to ascertain whether the applications are complete. Except for low power TV, TV translator, TV booster, and non-reserved band FM (except for Class D) applications, those found to be complete or substantially complete are accepted for filing and are given file numbers. In the case of minor defects as to completeness, the applicant will be required to supply the missing information. Applications that are not substantially complete will be returned to the applicant. In the case of non-reserved band FM applications, those found to be substantially complete at tender will be accepted for tender and given file numbers. Non-reserved band FM applications that are not substantially complete will be returned to the applicant. In the case of low power TV, TV translator and TV booster applications, those found to be complete and sufficient will be accepted for filing and given file numbers. Low power TV, TV translator, and TV booster applications that are not complete and sufficient will be returned to the applicant.

\*\*\*\*\*

(c) At regular intervals, the FCC will issue a Public Notice listing all applications and major amendments thereto which have been accepted for filing, except for low power TV, TV translator, TV booster and non-reserved band FM stations. Pursuant to §73.3571(c), 73.3572(c) and 73.3573(d) such notice shall establish a cut-off date (not less than 30 days from the date of issuance) for the filing of mutually exclusive applications

and petitions to deny. However, no application will be accepted for filing unless certification of compliance with the local notice requirements of § 73.3580(h) has been made in the tendered application.

\* \* \* \* \*

10. Section 73.3572 is amended by revising the title, revising paragraphs (a), (c), (d), (e), and adding paragraph (f)(5) to read as follows:

**§ 73.3572 Processing of TV broadcast, low power TV, TV translator and TV booster station applications.**

(a) Applications for TV stations are divided into two groups:

(1) In the first group are applications for new stations or major changes in the facilities of authorized stations. A major change for TV broadcast stations authorized under this part is any change in frequency or community of license which is in accord with a present allotment contained in the Table of Allotments (Section 73.606). Other requests for change in frequency or community of license for TV broadcast stations must first be submitted in the form of a petition for rule making to amend the Table of Allotments. In the case of low power TV, TV translator, and TV booster stations authorized under Part 74 of this chapter, a major change is any change in:

- (i) Frequency (output channel) assignment (does not apply to TV boosters);
- (ii) Transmitting antenna system including the direction of the radiation, directive antenna pattern or transmission line;
- (iii) Antenna height;
- (iv) Antenna location exceeding 200 meters; or
- (v) Authorized operating power.

However, if the proposed modification of facilities, other than a change in frequency, will not increase the signal range of the low power TV, TV translator or TV booster station in any horizontal direction, the modification will not be considered a major change. Provided, that in the case of an authorized low power TV, TV translator or TV booster station which is predicted to cause or receive interference to or from an authorized TV broadcast station pursuant to Section 74.705 or interferes with broadcast or other services under Sections 74.703 or 74.709, that an application for a change in output channel, together with technical modifications which are necessary to avoid interference (including a change in antenna location of less than 16.1 km), will not be considered as an application for a major change in those facilities. Provided further, that the FCC may, within 15 days after the acceptance of any other application for modification of facilities, advise the applicant that such application is considered to be one for a major change and therefore subject to the provisions of Sections 73.3580 and 1.1111 pertaining to major changes.

\* \* \* \* \*

(c) Applications for TV stations, other than low power TV, TV translator and TV booster stations, will be processed as nearly as possible in the order in which they are filed. Such applications will be placed in the processing line in numerical sequence, and will be drawn by the staff for study, the lowest file number first. In order that those applications which are entitled to be grouped for processing may be fixed prior to the time processing of the earliest filed application is begun, the FCC will periodically release a Public Notice listing applications which have been accepted for filing and announcing a date (not less than 30 days after issuance) on which the listed applications will be considered available and ready for processing and by which all mutually exclusive applications and petitions to deny the listed applications must be filed.

(d) Except for applications for low power TV, TV translator and TV booster stations, regardless of the number of applications filed for channels in a city or the number of assignments available in that city, those applications which are mutually exclusive, i.e., which request the same channel, will be designated for hearing. All other applications for channels will, if the applicants are duly qualified, receive grants. For example, if channels 6, 13, 47 and 53 have been assigned to City X and there are pending two applications for Channel 6 and one application for each of the remaining channels, the latter three applications will be considered grants without hearing and the two mutually exclusive applications will requesting Channel 6 will be designated for hearing. If there are two pending applications for Channel 6 and two applications for Channel 13, separate hearings will be held.

(e) Where applications, other than applications for low power TV, TV translator and TV booster stations, are mutually exclusive because the distance between the respective proposed transmitter sites is contrary to the station separation requirements set forth in § 73.610, such applications will be processed and designated for hearing at the time the application with the lower file number is reached for processing. In order to be considered mutually exclusive with a lower file number application, the higher file number application must have been accepted for filing at least one day before the lower file number application has been acted upon by the FCC.

(f) \* \* \*

(5) TV booster station applications may be filed at any time and will be subject to the following procedures:

(i) Subsequent to filing, the FCC will release a Public Notice accepting for filing and proposing for grant those applications which are not mutually exclusive with any other TV translator, low power TV, or TV booster application, and providing for the filing of Petitions to Deny pursuant to § 73.3584;

(ii) Any application received during the filing period for TV translator, low power TV, or TV booster applications with which it is mutually exclusive will be included in the relevant public lottery pursuant to § 1.1601 *et seq.*; and

(iii) Applications received after the filing date for applications with which it is mutually exclusive will be dismissed as an untimely filing.

11. Section 73.3580 is amended by revising paragraphs (c), (d)(1), (d)(3), and (g) to read as follows:

**§73.3580 Local public notice of filing of broadcast applications.**

\*\*\*\*\*

(c) An applicant who files an application or amendment thereto which is subject to the provisions of this section, must give a notice of this filing in a newspaper. Exceptions to this requirement are applications for renewal of AM, FM, TV and International broadcasting stations; low power TV stations; TV and FM translator stations, TV booster stations; FM booster stations; and applications subject to paragraph (e) of this section. The local public notice must be completed within 30 days of the tendering of the application. In the event the FCC notifies the applicant that a major change is involved, requiring the applicant to file public notice pursuant to §73.3571, 73.3572, 73.3573 or 73.3578, this filing notice shall be given in a newspaper following this notification.

\*\*\*\*\*

(d) \*\*\*

(1) An applicant who files for renewal of a broadcast station license, other than a low power TV station license not locally originating programming as defined by § 74.701(h), FM translator station, FM booster station, TV booster station or a TV translator station license, must give notice of this filing by broadcasting announcements on applicant's station. (Sample and schedule of announcements are below.) Newspaper publication is not required. An applicant who files for renewal of a low power TV station license not locally originating programming as defined by § 74.701(h), FM translator station, FM booster station, TV booster station or TV translator station licensee will comply with (g) below.

\*\*\*\*\*

(3) An applicant who files for modification, assignment or transfer of a broadcast station license (except for International broadcast, low power TV, TV translator, TV booster, FM translator and FM booster stations) shall give notice of the filing in a newspaper as described in paragraph (c) of this section, and also broadcast the same notice over the station as follows:

\*\*\*\*\*

(g) An applicant who files for an authorization, major modifications, assignment, transfer or renewal, or a major amendment thereto, for a low power TV, TV translator, TV booster, FM translator, or FM booster station must

give notice of this filing in a daily, weekly or biweekly newspaper of general circulation in the community or area to be served. (An applicant who files for renewal of a low power TV station locally originating programming as defined by § 74.701(h) must give notice pursuant to (d)(1) of this section.) The filing notice will be given immediately following the tendering for filing of the application or amendment, or immediately following notification to the applicant by the FCC that public notice is required pursuant to §73.3572, 73.3573, or 73.3578.

12. Section 73.3584 is amended by revising paragraphs (a), (b), and (c) to read as follows:

**§73.3584 Petitions to deny.**

(a) Except in the case of applications for new low power TV, TV translator or TV booster stations, for major changes in the existing facilities of such stations, or for applications for a change in output channel tendered by displaced low power TV and TV translator stations pursuant to Section 73.3572(a)(1), any party in interest may file with the Commission a Petition to Deny any application (whether as originally filed or if amended so as to require a new file number pursuant to Sections 73.3571(j), 73.3572(b), 73.3573(b), 73.3574(b) or 73.3578) for which local notice pursuant to Section 73.3580 is required, provided such petitions are filed prior to the day such applications are granted or designated for hearing; but where the FCC issues a public notice pursuant to the provisions of Sections 73.3571(c), 73.3572(c) or Section 73.3573(d), establishing a "cut-off" date, such petitions must be filed by the date specified. In the case of applications for transfers and assignments of construction permits or station licenses, Petitions to Deny must be filed not later than 30 days after issuance of a public notice of the acceptance for filing of the applications. In the case of applications for renewal of license, Petitions to Deny may be filed at any time up to the last day for filing mutually exclusive applications under Section 73.3516(e). Requests for extension of time to file Petitions to Deny applications for new broadcast stations or major changes in the facilities of existing stations or applications for renewal of license will not be granted unless all parties concerned, including the applicant, consent to such requests, or unless a compelling showing can be made that unusual circumstances make the filing of a timely petition impossible and the granting of an extension warranted.

(b) Except in the case of applications for new low power TV, TV translator, or TV booster stations, for major changes in the existing facilities of such stations, or for applications for a change in output channel tendered by displaced low power TV or TV translator stations pursuant to Section 73.3572(a)(1), the applicant may file an opposition to any Petition to Deny, and the petitioner a reply to such opposition in which allegations of fact or denials thereof shall be supported by affidavit of a person or persons with personal knowledge thereof. The times for filing such oppositions and replies shall be those provided in Section 1.45 except that as to a Petition to Deny an application for renewal of license, an opposition thereto may be filed within 30 days after the Petition to Deny is filed, and the party that filed the Petition to Deny may reply to the opposition within 20 days after opposition is

filed, whichever is longer. The failure to file an opposition or reply will not necessarily be construed as an admission of any fact or argument contained in a pleading.

(c) In the case of applications for new low power TV, TV translator, or TV booster stations, for major changes in the existing facilities of such stations, or for applications for a change in output channel tendered by displaced low power TV and TV translator stations pursuant to Section 73.3572(a)(1), any party in interest may file with the FCC a Petition to Deny any application (whether as originally filed or if amended so as to require a new file number pursuant to Section 73.3572(b)) for which local notice pursuant to Section 73.3580 is required, provided such petitions are filed within 30 days of the FCC Public Notice proposing the application for grant (applicants may file oppositions within 15 days after the Petition to Deny is filed); but where the FCC selects a tentative permittee pursuant to Section 1.1601 *et seq.*, Petitions to Deny shall be accepted only if directed against the tentative selectee and filed after issuance of and within 15 days of FCC Public Notice announcing the tentative selectee. The applicant may file an opposition within 15 days after the Petition to Deny is filed. In cases in which the minimum diversity preference provided for in Section 1.1623(f)(1) has been applied, an "objection to diversity claim" and opposition thereto, may be filed against any applicant receiving a diversity preference, within the same time period provided herein for Petitions and Oppositions. In all pleadings, allegations of fact or denials thereof shall be supported by appropriate certification. However, the FCC may announce, by the Public Notice announcing the acceptance of the last-filed mutually exclusive application, that a notice of Petition to Deny will be required to be filed no later than 30 days after issuance of the Public Notice.

\*\*\*\*\*

13. Section 73.3598 is amended by revising paragraph (b) to read as follows:

**§73.3598 Period of construction.**

\*\*\*\*\*

(b) Other broadcast, auxiliary and Instructional TV Fixed Stations. Each original permit for the construction of a new AM, FM or International Broadcast; low power TV; TV translator; TV booster; FM translator; FM booster; broadcast auxiliary; or Instructional TV Fixed station, or to make changes in such existing stations, shall specify a period of no more than 18 months from the date of issuance of the original construction permit within which construction shall be completed and application for license be filed.

14. Section 74.1 is amended by revising paragraph (b) to read as follows:

**§74.1 Scope.**

\*\*\*\*\*

(b) Rules in Part 74 which apply exclusively to a particular service are contained in that service subpart, as follows: Experimental Broadcast Stations, Subpart A; Remote Pickup Broadcast Stations, Subpart D; Aural Broadcast STL and Intercity Relay Stations, Subpart E; TV Auxiliary Broadcast Stations, Subpart F; Low Power TV, TV Translator and TV Booster Stations, Subpart G; Low Power Auxiliary Stations, Subpart H; Instructional TV Fixed Service, Subpart I; FM Broadcast Translator Stations and FM Broadcast Booster Stations, Subpart L.

15. Section 74.15 is amended by revising paragraph (c) to read as follows:

**§74.15 Station license period.**

\*\*\*\*\*

(c) The license of an FM broadcast booster station or a TV broadcast booster station will be issued for a period running concurrently with the license of the FM radio broadcast station or TV broadcast station (primary station) with which it is used.

16. Section 74.501 is amended by revising paragraphs (a) and (b) to read as follows:

**§74.501 Classes of aural broadcast auxiliary stations.**

(a) *Aural broadcast STL station.* A fixed station utilizing telephony for the transmission of aural program material between a studio and the transmitter of a broadcasting station other than an international broadcasting station, for simultaneous or delayed broadcast, or other purposes as authorized in § 74.531.

(b) *Aural broadcast intercity relay stations.* A fixed station for the transmission of aural program material between radio broadcast stations, other than international broadcast stations, and between FM radio broadcast stations and their co-owned FM booster stations, or other purposes as authorized in § 74.531.

\*\*\*\*\*

17. Section 74.531 amended by redesignating paragraphs (c) through (f) as (d) through (g) and adding new paragraph (c) to read as follows:

**§74.531 Permissible service.**

\*\*\*\*\*

(c) An aural broadcast STL or intercity relay may be used to transmit material between an FM broadcast radio station and an FM booster station owned, operated, and controlled by the licensee of the originating FM radio station. This use shall not interfere with or otherwise preclude use of these broadcast auxiliary facilities by broadcast auxiliary stations transmitting aural programming between the studio and transmitter location of a broadcast station or between broadcast stations as provided in paragraphs (a) and (b) above.

\*\*\*\*\*

18. Section 74.532 is amended by revising paragraph (a) to read as follows:

**§74.532 Licensing requirements.**

(a) An aural broadcast STL or intercity relay station will be licensed only to the licensee or licensees of broadcast stations other than international broadcast stations, and for use by broadcast stations or FM booster stations owned entirely by or under common control of the licensee or licensees.

\*\*\*\*\*

19. 47 CFR Part 74 Subpart G is retitled to read as follows: Subpart G—Low Power TV, TV Translator, and TV Booster Stations

20. Section 74.701 is amended by adding paragraph (i) to read as follows:

**§74.701 Definitions.**

\*\*\*\*\*

(i) *Television broadcast booster station.* A station in the broadcast service operated by the licensee or permittee of a full service television broadcast station for the purpose of retransmitting the programs and signals of such primary station without significantly altering any characteristic of the original signal other than its amplitude. A television broadcast booster station may only be located such that its entire service area is located within the protected contour of the primary station it retransmits. For the purpose of this paragraph, the service area of the booster and the protected contour of the primary station will be determined by the methods prescribed in Section 74.705(c).

21. Section 74.702 is amended by adding paragraph (c) to read as follows:

**§74.702 Channel assignments.**

\*\*\*\*\*

(c) A television broadcast booster station will be authorized on the channel assigned to its primary station.

22. Section 74.703 is amended by revising paragraphs (a), (b), and (c) to read as follows:

**§74.703 Interference.**

(a) An application for a new low power TV, TV translator, or TV booster station or for a change in the facilities of such an authorized station will not be granted when it is apparent that interference will be caused. The licensee of a new low power TV, TV translator, or TV booster shall protect existing low power TV and TV translator stations from interference within the protected contour defined in § 74.707.

(b) It shall be the responsibility of the licensee of a low power TV, TV translator, or TV booster station to correct at its expense any condition of interference to the direct reception of the signal of any other TV broadcast station operating on the same channel as that used by the low power TV, TV translator, or TV booster station or an adjacent channel which occurs as a result of the operation of the low power TV, TV translator, or TV booster station. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the low power TV, TV translator, or TV booster station, regardless of the quality of the reception or the strength of the signal so used. If the interference cannot be promptly eliminated by the application of suitable techniques, operation of the offending low power TV, TV translator, or TV booster station shall be suspended and shall not be resumed until the interference has been eliminated. If the complainant refuses to permit the low power TV, TV translator, or TV booster station to apply remedial techniques that demonstrably will eliminate the interference without impairment of the original reception, the licensee of the low power TV, TV translator, or TV booster station is absolved of further responsibility.

(c) It shall be the responsibility of the licensee of a low power TV, TV translator, or TV booster station to correct any condition of interference which results from the radiation of radio frequency energy outside its assigned channel. Upon notice by the FCC to the station licensee or operator that such interference is caused by spurious emissions of the station, operation of the station shall immediately be suspended and not resumed until the interference has been eliminated. However, short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

\*\*\*\*\*

23. Section 74.705 is amended by revising paragraphs (c), (d), and (d)(1)(ii) to read as follows:

**§74.705 TV broadcast station protection.**



\*\*\*\*\*

(c) The low power TV, TV translator, or TV booster station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of Part 73 of this chapter.

(2) For low power TV, TV translator, and TV boosters that do not specify the same channel as the TV broadcast station to be protected, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(d) A low power TV, TV translator, or TV booster application will not be accepted if the ratio in dB of its field strength to that of the TV broadcast station at the protected contour fails to meet the following:

(1) \* \* \*

(ii) A description of the means by which the low power TV, TV translator, or TV booster station will be maintained within the tolerances specified in § 74.761 for offset operation.

24. Section 74.707 is amended by revising paragraphs (a)(1), (b)(1), (b)(3), (c), and (d) to read as follows:

**§74.707 Low power TV and TV translator station protection.**

(a)(1) A low power TV or TV translator will be protected from interference from other low power TV or TV translator stations, or TV booster stations within the following predicted contours:

\*\*\*\*\*

(b)(1) An application to construct a new low power TV, TV translator, or TV booster station or change the facilities of an existing station will not be accepted if it specifies a site which is within the protected contour of a co-channel or first adjacent channel low power TV, TV translator, or TV booster station, except that a TV booster station may be located within the protected contour of its co-channel primary station.

(2) \* \* \*

(3) A UHF low power TV, TV translator, or TV booster construction permit application will not be accepted if it specifies a site within the UHF low power TV, TV translator, or TV booster station's protected contour and proposes operation on a channel either 7 channels below or 14 or 15 channels above the channel in use by the low power TV, TV translator, or TV booster station.

(c) The low power TV, TV translator, or TV booster construction permit application field strength is calculated from the proposed effective radiated power (ERP) and the antenna above average terrain (HAAT) in pertinent directions.

(1) \* \* \*

(2) For low power TV, TV translator, or TV booster applications that do not specify the same channel as the low power TV, TV translator, or TV booster station to be protected, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(d) A low power TV, TV translator, or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the authorized low power TV, TV translator, or TV booster station at its protected contour fails to meet the following:

(1) \* \* \*

(i) \* \* \*

(ii) A description of the means by which the low power TV, TV translator, or TV booster station's frequencies will be maintained within the tolerances specified in § 74.761 for offset operation.

\*\*\*\*\*

25. Section 74.731 is amended by revising paragraphs (a) and (b) and adding paragraphs (j) and (k) to read as follows:

**§74.731 Purpose and permissible service.**

(a) Television broadcast translator stations and television broadcast booster stations provide a means whereby the signals of television broadcast stations may be retransmitted to areas in which direct reception of such television broadcast stations is unsatisfactory due to distance or intervening terrain barriers.

(b) Except as provided in paragraph (f) of this section, a television broadcast translator station or television broadcast booster station may be used only to receive the signals of a television broadcast station, another television broadcast translator station, a television translator relay station, a television intercity relay station, a television STL station, or other suitable source such as a CARS or common carrier microwave station, for the simultaneous retransmission of the programs and signals of a television broadcast station. Such retransmissions may be accomplished by either:

\*\*\*\*\*

(j) Television broadcast booster stations provide a means whereby the licensee of a television broadcast station may provide service to areas of low signal strength in any region within the primary station's Grade B contour. The booster station may not be located outside the predicted Grade B of its primary station nor may the predicted Grade B signal of the television booster station extend beyond the predicted Grade B contour of the primary station. A television broadcast booster station is authorized to retransmit only the signals of its primary station; it shall not retransmit the signals of any other stations nor make independent transmissions. However, locally generated sig-

nals may be used to excite the booster apparatus for the purpose of conducting tests and measurements essential to the proper installation and maintenance of the apparatus.

(k) The transmissions of a television broadcast booster station shall be intended for direct reception by the general public. Such stations will not be permitted to establish a point-to-point television relay system.

26. Section 74.732 is amended by adding paragraphs (g) and (h) to read as follows:

**§74.732 Eligibility and licensing requirements.**

\*\*\*\*\*

(g) A television broadcast booster station will be authorized only to the licensee or permittee of the television station whose signals the booster will rebroadcast, to areas within the Grade B contour of the primary station.

(h) No numerical limit is placed on the number of booster stations that may be licensed to a single licensee. A separate license is required for each television broadcast booster station.

27. Section 74.735 is amended by revising paragraphs (a) and (d) to read as follows:

**§74.735 Power limitations.**

(a) The power output of the final radiofrequency amplifier of a VHF low power TV, TV translator, or TV booster station, except as provided for in paragraphs (d) and (f) of this section shall, not exceed 0.01 kW visual power. A UHF station shall be limited to a maximum of 1 kW peak visual power except as provided for in paragraph (f) of this section. In no event shall the transmitting apparatus be operated with a power output in excess of the manufacturer's rating.

\*\*\*\*\*

(d) VHF low power TV, TV translator, and TV booster stations authorized on channels listed in the TV table of allocations (see § 73.606(b) of Part 73 of this chapter) will be authorized a maximum output power of the radio frequency amplifier of 0.1 kW peak visual power.

\*\*\*\*\*

28. Section 74.736 is amended by revising paragraph (a) to read as follows:

**§74.736 Emissions and bandwidth.**

(a) The license of a low power TV, TV translator, or TV booster station authorizes the transmission of the visual signal by amplitude modulation (A5) and the accompanying aural signal by frequency modulation (F3).

\*\*\*\*\*

29. Section 74.737 is amended by revising paragraph (a) to read as follows:

**§74.737 Antenna location.**

(a) An applicant for a new low power TV, TV translator, or TV booster station or for a change in the facilities of an authorized station shall endeavor to select a site that will provide a line-of-sight transmission path to the entire area intended to be served and at which there is available a suitable signal from the primary station, if any, that will be retransmitted.

\*\*\*\*\*

30. Section 74.750 is amended by revising paragraphs (a), (d), (e)(1), (e)(2), and (g) to read as follows:

**§74.750 Transmission system facilities.**

(a) Applications for new low power TV, TV translator, and TV booster stations and for increased transmitter power for previously authorized facilities will not be accepted unless the transmitter is listed in the FCC's list of equipment type accepted for licensing under the provisions of this subpart.

\*\*\*\*\*

(d) Low power TV, TV translator and transmitting equipment using a modulation process for either program origination or rebroadcasting TV booster transmitting equipment using a modulation process must meet the following requirements:

\*\*\*\*\* (

e) \* \* \*

(1) Any manufacturer of apparatus intended for use at low power TV, TV translator, or TV booster stations may request type acceptance by following the procedures set forth in Part 2, Subpart J, of this chapter. Equipment found to be acceptable by the FCC will be listed in the "Radio Equipment List" published by the FCC. These lists are available for inspection at the FCC headquarters in Washington, D.C. or at any of its field offices.

(2) Low power TV, TV translator, and TV booster transmitting apparatus that has been type accepted by the FCC will normally be authorized without additional measurements from the applicant or licensee.

\*\*\*\*\*

(g) Low power TV, TV translator, or TV booster stations installing new type accepted transmitting apparatus incorporating modulating equipment need not make equipment performance measurements and shall so indicate on the station license application. Stations adding

new or replacing modulating equipment to existing low power, TV translator, or TV booster station transmitting apparatus must have a qualified operator (§ 74.18) examine the transmitting system after installation. This operator must certify in the application for the station license that the transmitting equipment meets the requirement of paragraph (d)(1) of this section. A report of the methods, measurements, and results must be kept in the station records. However, stations installing modulating equipment solely for the limited local origination of signals permitted by § 74.731 need not comply with the requirements of this paragraph.

31. Section 74.751 is amended by revising paragraph (b)(1) to read as follows:

**§74.751 Modification of transmission systems.**

\*\*\*\*\*

(b) \* \* \*

(1) Replacement of the transmitter as a whole, except replacement with a transmitter of identical power rating which has been type accepted by the FCC for use by low power TV, TV translator, and TV booster stations, or any change which could result in a change in the electrical characteristics or performance of the station.

32. Section 74.761 is amended by revising the introductory paragraph and paragraph (d) to read as follows:

**§74.761 Frequency tolerance.**

The licensee of a low power TV, TV translator, or TV booster station shall maintain the transmitter output frequencies as set forth below. The frequency tolerance of stations using direct frequency conversion of a received signal and not engaging in offset carrier operation as set forth paragraph (d) of this section will be referenced to the authorized plus or minus 10 kHz offset, if any, of the primary station.

\*\*\*\*\*

(d) The visual carrier shall be maintained to within 1 kHz of the assigned channel carrier frequency if the low power TV, TV translator, or TV booster station is authorized with a specified offset designation in order to provide protection under the provisions of § 74.705 or § 74.707.

33. Section 74.762 is amended by revising paragraphs (a) and (b) to read as follows:

**§74.762 Frequency measurements.**

(a) The licensee of a low power TV station, a TV translator, or a TV booster station must measure the carrier frequencies of its output channel as often as necessary to ensure operation within the specified tolerances, and at least once each calendar year at intervals not exceeding 14 months.

(b) In the event that a low power TV, TV translator, or TV booster station is found to be operating beyond the frequency tolerance prescribed in § 74.761, the licensee promptly shall suspend operation of the transmitter and shall not resume operation until transmitter has been restored to its assigned frequencies. Adjustment of the frequency determining circuits of the transmitter shall be made only by a qualified person in accordance with § 74.750(g).

34. Section 74.763 is amended by revising paragraphs (a) and (c) to read as follows:

**§74.763 Time of operation.**

(a) A low power TV, TV translator, or TV booster station is not required to adhere to any regular schedule of operation. However, the licensee of a TV translator or TV booster station is expected to provide service to the extent that such is within its control and to avoid unwarranted interruptions in the service provided.

\*\*\*\*\*

(c) Failure of a low power TV, TV translator, or TV booster station to operate for a period of 30 days or more, except for causes beyond the control of the licensee, shall be deemed evidence of discontinuation of operation and the license of the station may be cancelled at the discretion of the FCC.

\*\*\*\*\*

35. Section 74.780 is amended by revising the title and the introductory language to read as follows:

**§74.780 Broadcast regulations applicable to translators, low power, and booster stations.**

The following rules are applicable to TV translator, low power TV, and TV booster stations:

\*\*\*\*\*

36. Section 74.781 is amended by revising paragraph (a) to read as follows:

**§74.781 Station records.**

(a) The licensee of a low power TV, TV translator, or TV booster station shall maintain adequate station records, including the current instrument of authorization, official correspondence with the FCC, contracts, permission for rebroadcasts, and other pertinent documents.

\*\*\*\*\*

37. Section 74.784 is amended by redesignating paragraph (d) as paragraph (e) and adding a new paragraph (d) to read as follows:

**§74.784 Rebroadcasts.**

\*\*\*\*\*

(d) A TV booster station may rebroadcast only programs and signals that are simultaneously transmitted by the primary station to which it is authorized.

\*\*\*\*\*

38. Section 74.783 is amended by adding paragraph (e) to read as follows:

**§74.783 Station identification.**

\*\*\*\*\*

(e) TV broadcast booster station shall be identified by their primary stations by broadcasting of the primary station's call letters and location in accordance with the provisions of § 73.1201 of this chapter.

39. Section 74.1201 is amended by revising paragraph (f) to read as follows:

**§74.1201 Definitions.**

\*\*\*\*\*

(f) *FM broadcast booster station.* A station in the broadcasting service operated for the sole purpose of retransmitting the signals of an FM radio broadcast station, by amplifying and reradiating such signals, without significantly altering any characteristic of the incoming signal other than its amplitude.

40. Section 74.1203 is amended by revising paragraphs (a), (b), (c), and (d) and adding paragraph (e) to read as follows:

**§74.1203 Interference.**

(a) FM translators and FM boosters will be authorized and permitted to continue to operate only where they cause no interference to the direct reception by the public of the off-the-air signals of any authorized broadcast station including Class D (secondary) noncommercial educational FM stations. FM translators and FM boosters shall not cause harmful interference to the transmissions of any other authorized radio station nor shall an FM translator or FM booster cause interference to reception by a television broadcast translator station of its input signals. FM translator stations or FM booster stations which may cause any such interference will not be authorized. FM booster

stations will be exempt from the provisions of this paragraph to the extent that they may cause limited interference to their primary stations' signals subject to the conditions of paragraph (e) of this section.

(b) Interference will be considered to occur whenever reception to a regularly used off-the-air signal by viewers or listeners is impaired by the signals radiated by the translator or booster, regardless of the quality of such reception, the strength of the signals so used, or the channel on which the protected signal is transmitted.

(c) If interference cannot be promptly eliminated by the application of suitable techniques, operation of the offending translators or booster shall be immediately suspended and shall not be resumed until the interference has been eliminated. Short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures. If a complainant refuses to permit the translator or booster licensee to apply remedial techniques which demonstrably will eliminate the interference without impairment to the original reception, the licensee of the translator or booster is absolved of further responsibility.

(d) It shall be the responsibility of the licensee of an FM translator station or FM booster station to correct any condition of interference which results from the radiation of radio frequency energy by its equipment on any frequency outside the assigned channel. Upon notice by the Commission to the station licensee or operator that such interference is being caused, the operation of the translator station or booster station shall be immediately suspended and shall not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions by the FM translator station or FM booster station: Provided, however, That short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

(e) An FM booster station may not disrupt the existing service of its primary stations nor may it cause interference to the signal provided by the primary station within the boundaries of the principal community to be served.

41. Section 74.1231 is amended by revising paragraph (h) to read as follows:

**§74.1231 Purpose and permissible service.**

\*\*\*\*\*

(h) FM broadcast booster stations provide a means whereby the licensee of an FM broadcast station may provide service to areas of low signal strength in any region within the primary station's predicted service contour. An FM broadcast booster station is authorized to retransmit only the signals of its primary station; it shall not retransmit the signals of any other station nor make independent transmissions: *Provided, however,* That locally generated signals may be used to excite the booster apparatus for the purpose of conducting tests and measurements essential to the proper installation and maintenance of the apparatus.

\*\*\*\*\*

42. Section 74.1232 is amended by revising paragraph (e), removing paragraph (g) and redesignating paragraph (h) as (g).

**§74.1232 Eligibility and licensing requirements.**

\*\*\*\*\*

(e) An FM broadcast booster station will be authorized only to the licensee or permittee of the FM radio broadcast station whose signals the booster station will retransmit, to serve areas within the predicted service contour of the primary station, subject to Note, § 74.1231(h).

\*\*\*\*\*

43. Section 74.1235 is amended by revising paragraph (a) and by adding paragraph (c) to read as follows:

**§74.1235 Power limitations.**

(a) The power output of the final radio frequency amplifier of an FM translator shall not exceed 10 watts, except that FM broadcast translator stations serving areas east of the Mississippi River or in Zone I-A shall be limited to 1 watt. This power may be fed into single transmitting antenna or may be divided between two or more transmitting antennas or arrays of antennas or any manner found useful or desirable by the licensee. In individual cases, the Commission may authorize the use of more than one final radio frequency amplifier at a single station under the following conditions;

\*\*\*\*\*

(c) The output power of FM booster stations shall be limited such that the predicted service contour of such stations, computed in accordance with Section 73.313(a)-(d), may not extend beyond the area covered by the predicted service contour of the primary station that they rebroadcast and that such output power may not exceed 20 percent of the maximum allowable effective radiated power for the primary station's class. Further, FM booster stations shall be subject to the requirement that the signal of any first adjacent channel station must exceed the signal of the booster station by 6 dB at all points within the protected contour of any first adjacent channel station.

44. Section 74.1236 is amended by revising paragraph (a) to read as follows:

**§74.1236 Emissions and bandwidth.**

(a) The license of a station authorized under this subpart authorizes the transmission of each F3 or other types of frequency modulation upon a showing of need as long as the emission complies with the following:

(1) For transmitter output powers no greater than 10 watts, paragraphs (b), (c), and (d) of this section apply.

(2) For transmitter output powers greater than 10 watts, Section 73.317 (a), (b), (c), and (d) apply.

\*\*\*\*\*

45. Section 74.1250 is amended by revising paragraphs (c), redesignating paragraphs (d) through (f) as paragraphs (e) through (g) and adding new paragraph (d) to read as follows:

**§74.1250 Transmitters and associated equipment.**

\*\*\*\*\*

(c) The following requirements must be met before translator or booster equipment of 10 watts or less output power will be type accepted by the Commission:

\*\*\*\*\*

(d) Booster station transmitters having power outputs in excess of 10 watts must meet the requirements of Section 73.1660 of this chapter.

\*\*\*\*\*

46. Section 74.1261 is revised to read as follows:

**§74.1261 Frequency tolerance.**

The licensee of an FM translator station shall maintain the center frequency at the output of the translator within 0.01 percent of its assigned frequency. The output frequency of an FM booster station shall comply with the requirements of Section 73.1545(b).

**FOOTNOTES**

<sup>1</sup> See *Report and Order* in Docket No. 17159, 20 RR 2d 1538 (1970) and *Report and Order* in Docket No. 15858, 30 FR 8843 (1965).

<sup>2</sup> The FM booster rules are set forth in Section 74, Subpart L, of our rules. See 47 CFR §74.1201-1284.

<sup>3</sup> See *Report and Order* in Docket No. 17159, *supra*, at 1541.

<sup>4</sup> See 47 CFR § 74.1232(e).

<sup>5</sup> The Grade B contour for full service television stations is defined in Section 73.683 of our rules. See 47 CFR § 73.683.

<sup>6</sup> See *Notice of Proposed Rule Making* in MM Docket No. 87-13, adopted February 2, 1987, 52 FR 7895.

<sup>7</sup> Parties filing comments and/or reply comments are listed in Appendix A.

<sup>8</sup> These actions are consistent with the objectives set forth in Section 303(g) of the Communications Act of "encouraging the larger and more effective use of radio in the public interest." See 47 U.S.C. § 303(g).

<sup>9</sup> See *Report and Order* in BC Docket No. 80-90, adopted May 26, 1983, 48 FR 29486, at paragraph 87.

<sup>10</sup> The note to Section 74.1231(h) provides that boosters of FM stations authorized with facilities in excess of those permitted under Section 73.211 of the rules will be authorized only within the 1 mV/m contour as predicted on the basis of the maximum power and antenna height for the applicable class of station. See 47 CFR § 74.1231(h) note.

<sup>11</sup> See *Notice of Proposed Rule Making* in MM Docket No. 86-144, adopted April 11, 1986, 51 FR 15927. NAB recommends that we address FM receiver IF intermodulation protection criteria when considering booster service interference limits in MM Docket No. 86-144.

<sup>12</sup> We will not modify the basic definition of FM booster station to include adjacent channel facilities or to permit operation beyond the primary station's predicted contour, as some commenters suggest. We believe that to do so would change the basic nature of booster service in a manner that would deviate from the fundamental intent of this service as a means for licensees to fill in their coverage contours.

<sup>13</sup> We note that this is the ERP limit recommended by Brill in its Petition for Rule Making. This limit generally will enable a booster to serve an area with a radius equal to one half that of its primary station, if that station were operating at the maximum facilities permissible for its class.

<sup>14</sup> See 47 CFR 1.1307(b) note.

<sup>15</sup> The Commission's Office of Engineering and Technology will initiate a rule making proceeding to amend the note in Section 1.1307(b) accordingly.

<sup>16</sup> Under this approach, if a station alters its main facility in any manner that changes its predicted service contour, the permissible area of booster service will change accordingly. For example, if a station increases its facilities to extend its predicted service contour, it will be permitted to extend its booster service to the new contour limits. Similarly, if a station decreases its facilities in a manner that contracts its predicted service contour, it will have to decrease the service area of any booster stations that might extend beyond its new predicted service area.

<sup>17</sup> In this regard, we note that we recently authorized an experimental operation on television channel 7 in Puerto Rico involving the use of multiple co-channel transmitters as a means to overcome terrain shielding limits on propagation. See Ponce, PR, File No. BPEX-85110KH, FCC 86-451.

<sup>18</sup> See 47 CFR § 74.1232(g).

<sup>19</sup> See *Report and Order* in BC Docket No. 80-90, *supra*.

<sup>20</sup> See 47 CFR § 74.1203.

<sup>21</sup> Accordingly, boosters operating with ERP of 10 watts or less will be treated as Class D stations and are not subject to intermediate frequency separations requirements.

<sup>22</sup> See 47 CFR 73.207.

<sup>23</sup> By secondary basis, we mean that use of an aural auxiliary channel for booster service would not be permitted to interfere with or otherwise preclude its use by full service AM and FM stations. The effective date of the frequency stacking rules which will allow the use of aural broadcast frequencies by FM boosters will be delayed pending the availability of appropriate computer programs for implementing the variable band width provision of these new rules. The programs are expected to be available in the near future. See *Report and Order* in Docket No. 85-36, 50 FR 48596, November 26, 1985.

<sup>24</sup> Eventually, we also intend to modify these forms to permit their use for FM translator construction permits and license applications. Currently these applicants use FCC Forms 346 and 347

for FM translator construction permits and licenses, respectively, the same forms used by applicants for TV translator and LPTV stations.

<sup>25</sup> See 47 CFR 74.15(c).

<sup>26</sup> See 47 CFR 73.3540.

<sup>27</sup> In general, once we begin to accept applications for high power boosters, they may be filed at any time. However, we will not accept applications for a new booster facility prior to the assignment of a call sign to the primary station it rebroadcasts.

<sup>28</sup> We note that television translators also are authorized to serve areas beyond the parent station's predicted Grade B contour.

<sup>29</sup> The current rules prohibit co-channel and adjacent channel translators that would retransmit a television station within its own predicted service contour. See 47 CFR § 74.705(b)(1).

<sup>30</sup> See 47 CFR § 74.703-74.709.

<sup>31</sup> However, an engineering statement by Jules Cohen & Associates appended to the comments of Spanish International Communications Corporation (SICC) and Univision indicates that the actual number of situations where boosters may be employed successfully is likely to be limited by the primary station's desire not to destroy its own satisfactory service in areas surrounding the booster and by the stringent translator/LPTV rules under which TV boosters would be required to avoid interfering with other stations.

<sup>32</sup> In its reply, MST refines its position to state that the proper standards should allow no more interference within another full service station's Grade B contour than the booster's primary station is predicted to cause. MST also states that when interference is caused, it must be corrected or the booster must go off the air.

<sup>33</sup> See *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945).

<sup>34</sup> TV boosters will be identified by their primary stations' call letters following the procedures currently used for FM boosters.

<sup>35</sup> In response to commenters concerns, we will amend Section 74.731(b) of the rules regarding delivery systems to clarify that signals may be delivered by means other than direct, over-the-air reception of the primary signal.

<sup>36</sup> For purposes of determining the relevant predicted Grade B contour, licensees will be required to follow the method for determining field strength based on pertinent radials prescribed in Section 74.705(c). With the exception of calculating HAAT, terrain considerations will not enter into our processing procedures. See *Report and Order* in BC Docket No. 78-253, adopted March 4, 1982, 47 FR 21468 at paragraph 37.

<sup>37</sup> In conjunction with these standards, we want to remind licensees that the operation of TV boosters is restricted to the extent that both domestic and foreign stations are entitled to protection against increased interference.

<sup>38</sup> See Ponce, PR, *supra*.

<sup>39</sup> Because we are subjecting TV boosters to the same technical standards that apply for translators and LPTV station, we do not deem it appropriate to adopt a separate section of the Commission's rules for booster regulation, as suggested by several commenters.

<sup>40</sup> See *Report and Order* in MM Docket No. 86-286, adopted February 2, 1987, 52 FR 7420.

<sup>41</sup> We will make one exception to our normal practices regarding television translator/LPTV applications. TV boosters will not be subject to the restrictive cap placed on translator and LPTV applications nor will they count against those limits. See *Report and Order* in MM Docket No. 86-286, *supra*, at paragraph 10.

<sup>42</sup> See *Ashbacker supra*.

<sup>43</sup> *Storer* involved the Commission's authority to dismiss without consideration applications which, if granted, would be violative of its policies limiting broadcast ownership. Those policies were adopted to advance the public interest. Here, similarly, the public interest benefits associated with expanded, fill-in service will justify our limiting of eligibility to apply for the new TV booster stations. See also *Matrite of New York, Inc.*, FCC 84-338, released July 31, 1984, wherein a station was assigned to a different frequency in order to accommodate international treaty concerns. No competing applications were considered in that case.

<sup>44</sup> See *Report and Order* in MM Docket No. 83-1148, *Amendment of the Commission's Rules Regarding the Modification of FM and Television Station Licenses*, 98 FCC 2d 916 (1984), *recon. denied*, FCC 86-32, released January 17, 1986 and *Report and Order* in MM Docket No. 85-313, *Amendment of the Commission's Rules Regarding Modification of FM Broadcast Licenses to Higher Class Co-channel or Adjacent Channels*, 51 FR 20290 (June 4, 1986).

<sup>45</sup> We note that applicants for other broadcast services that also use Form 346 are charged an applications fee. See *Report and Order* in Gen. Docket No. 86-285 (*Fee Order*), adopted December 23, 1986, 52 FR 5285.

<sup>46</sup> See *Consolidated Omnibus Budget Reconciliation Act of 1985*, Pub.L. No. 99-272, §5002(e) and (f), 100 Stat. 82, 118-121 (1986).

<sup>47</sup> See *Fee Order*, *supra*, at paragraph 10.