

to the protected service of any new DTV channel.¹⁸⁴ Most of the parties addressing this issue argue that we should not condition facility modifications in cases where the application was submitted prior to the adoption of the Sixth Further Notice.¹⁸⁵ For example, MVM argues that conditioning grant of pre-existing modification applications on the outcome of the DTV allotment proceedings would penalize broadcasters who improve their service to the public. It states that few if any licensees would spend money in the improvement of service if the public and financial benefits of that improved service would be lost or compromised upon implementation of the DTV Table. The Modifiers argue that because of the condition, communities that now receive service from a modified NTSC stations may lose that service during the transition.¹⁸⁶ They further submit that the applications for modification filed for before the adoption of the Sixth Further Notice were developed as a routine part of the business of providing and improving current television service to viewers. The Modifiers also argue that the applicants did not cause the delays in granting their own applications. The Modifiers further submit that with the advent of the fledgling UPN and WB networks, a substantial number of independent stations that either were not built or were operating with inferior facilities have now found the resources to upgrade their facilities. They argue that these stations should not be held to that inferior status in the digital environment.

110. Pulitzer Broadcasting Company (Pulitzer) argues that many applicants relied on our previous decision, in the Second Further Notice, not to restrict modifications in preparing and filing their pending modification applications and that these parties would be unfairly prejudiced by this reversal.¹⁸⁷ It also notes that some older applications remain pending, while other applications, filed more recently, have been granted. Pulitzer states that each pending application should be considered on a case by case basis to determine whether the factual and legal circumstances warrant application of this new policy. It also argues that applications for modification filed after July 25, 1996, have less of a claim of prejudice because they undertook the investment in the facilities changes with full knowledge of the uncertainties that might stem from this proceeding.¹⁸⁸

111. WB states that because new networks have acute need for additional affiliates now, it urges us to consider and act on all pending applications and rule makings for new

¹⁸⁴ APTS comments, p. 43; Joint Broadcasters comments, p. 49.

¹⁸⁵ The parties arguing that we should not condition modifications grants where the application was filed before July 25, 1996, include Costa, Crossville, Maranatha, the Modifiers, Media Properties, Inc. (Media), MVM, Meredith Corporation (Meredith), Pulitzer Broadcasting Company (Pulitzer), Ramar, Red River, Second Generation, Sonshine, Valley, and WB.

¹⁸⁶ The Modifiers comments, pp. 5 and 9.

¹⁸⁷ See Second Further Notice, at para. 38.

¹⁸⁸ Pulitzer comments, p. 8.

NTSC stations before we allot DTV channels for eligible broadcasters.¹⁸⁹ It argues that we should not sacrifice diversity of over-the-air television in the process of implementing DTV service and that we should consider the role that networks play in promoting programming and ownership diversity. CBA argues that waivers and new applications should not be granted until a specific effort has been made to minimize damage to LPTV.¹⁹⁰ Meredith agrees we should freeze new facilities.¹⁹¹

112. Decision. As we stated in the Sixth Further Notice, eliminating existing vacant NTSC allotments will help us better achieve our goals of full accommodation, service area replication and spectrum recovery in the development of DTV allotments. If vacant allotments were retained, it would not be possible to accommodate all existing broadcasters in some areas and the expected service areas of many of the DTV allotments would be reduced. Such crowding could also result in increased interference to existing NTSC stations. Moreover, we believe that new television broadcast stations should operate with the new DTV technology. In this regard, the licensing of new NTSC stations will come to an end as provided in the Sixth Further Notice. Thus, there is no need to maintain vacant NTSC allotments that are not the subject of a pending application or rule making proceeding. Accordingly, as proposed, we are deleting all existing vacant NTSC allotments.¹⁹² With regard to noncommercial vacant allotments, the DTV Table replaces existing vacant noncommercial NTSC allotments with new noncommercial reserved DTV allotments where feasible, in a manner similar to the approach suggested by the Joint Broadcasters. After the transition, we also will consider establishing additional noncommercial reserved allotments on recovered spectrum for those existing vacant noncommercial allotments that cannot be replaced at this time. Consistent with our policy stated in the Sixth Further Notice with regard to pending applications and petitions for rule making requesting new allotments, we will maintain and protect those vacant NTSC allotments that are the subject of pending applications and will avoid creating DTV allotments that would conflict with proposed new NTSC allotments. This will ensure that parties who have already begun to invest in new stations, including those planning noncommercial stations, may continue to pursue their ongoing station development projects.

¹⁸⁹ WB comments, p. 8.

¹⁹⁰ CBA comments, p. 18.

¹⁹¹ Meredith comments, pp. 14-15.

¹⁹² In order to allow us the opportunity to identify and resolve all cases where there are pending requests to use existing vacant allotments, we are not implementing the deletion of vacant allotments in the rule amendments set forth in Appendix E of this Report and Order. We will eliminate the vacant NTSC allotments from Section 73.606 of the rules, 47 CFR § 73.606, in a separate Order at an appropriate time in the future. Nonetheless, we will henceforth treat the existing vacant allotments that are not the subject of pending applications as deleted and, consistent with our decision in the Sixth Further Notice not to accept applications for new NTSC stations after September 20, 1996 (see above), will not accept new applications for new stations on those allotments.

113. In developing the DTV Table of Allotments, we have been able to accommodate all of the eligible broadcasters with DTV allotments that would not conflict with any of the authorizations to modify existing NTSC facilities that have been granted subsequent to July, 25, 1996. Accordingly, we are removing the condition from all such authorizations to modify existing NTSC facilities. Henceforth, we will consider any impact on DTV allotments in deciding whether to grant applications for modification of NTSC facilities.

C. Low Power and TV Translator Stations

114. In the Sixth Further Notice, we recognized the benefits that low power stations provide to the public. We therefore indicated that we would attempt to minimize the impact of our DTV allotment and spectrum recovery proposals on low power TV operations. We proposed a number of measures for mitigating the impact on low power stations. First, in keeping with the decisions made in the Second Report/Further Notice, we reiterated our proposal to continue to permit displaced low power stations to apply for a suitable replacement channel in the same area without being subject to competing applications.¹⁹³ In this regard, we noted that many current TV channels have fewer than 100 LPTV or TV translator stations nationwide, while many other channels have significantly more than 100 such stations. We therefore stated that with more intensive utilization of the remaining channels, it should be possible to accommodate many LPTV and TV translator operations that are displaced. We stated that we would extend this relief measure to LPTV and TV translator licensees and permittees whose facilities are predicted to conflict with a DTV station. To insure the most effective use of this policy, we proposed to permit applications for such "displacement" relief to be filed at such time as there would be a reasonable expectation of displacement: for example, upon the filing of an application by a full service broadcaster for a DTV channel that would conflict with operation of the LPTV or TV translator station. We proposed to permit low power stations to operate until a displacing DTV station or a new primary service provider is operational. We also proposed to permit low power stations to file non-window displacement relief applications to change their operating parameters to cure or prevent interference caused to or received from a DTV station or other protected service.¹⁹⁴

115. We further proposed to permit low power TV operations on existing TV channels outside the core digital TV spectrum area. Under this proposal, low power TV

¹⁹³ See Second Report/Further Notice, at para. 45. The rules now permit special relief for authorized stations in the LPTV service having an actual or predicted interference conflict with a TV broadcast station or protected land mobile radio service. In that event, a station licensee or permittee may immediately file an application for a change in output channel, together with other changes necessary to avoid interference. Provided, such an application is acceptable for filing, it may be granted without opportunity for the filing of competing applications. See 47 CFR. 73.3572.

¹⁹⁴ LPTV and TV translator stations would be allowed to continue to operate provided they protected full service DTV operations in accordance with the desired-to-undesired signal ratios used for modifications to the DTV Table of Allotments.

operations on out-of-core channels would continue to be on a secondary basis and would have to avoid interference to any full service DTV or NTSC stations or to any new primary service operations. We requested comment on whether new service providers displacing low power stations should be required to compensate the licensees of those stations for their investment or for their move to another channel if such a move is possible.

116. We indicated that despite the above measures, a number of LPTV stations would still be required to cease operation in order to avoid interference to new DTV channels. We therefore sought to explore other policies that would preserve access to LPTV programming. We asked whether there are ways for low power stations to obtain carriage on new DTV stations or other video distributors. For example, in view of the ATSC DTV system's multiple programming capability, we asked whether we should consider incentives to encourage full-service digital stations to find ways to accommodate LPTV and TV translator stations? Similarly, we asked whether we should consider incentives to encourage carriage of LPTV stations on cable systems beyond the requirements set forth in Section 614(c) of the Communications Act?

117. We sought comment on any and all means of lessening the impact on low power TV and TV translator stations. In so doing, we invited the LPTV and TV translator communities to identify workable means of preserving existing LPTV service to the extent possible and of providing a digital migration path for LPTV and TV translator stations. We asked whether, if we were to adopt our core spectrum proposal, we should also set aside a few frequencies between channels 52 and 59 specifically for use by displaced LPTV stations. We requested comment on other possibilities, such as permitting existing broadcasters, either individually or jointly, to use the available channel or channels for additional broadcast or subscription programming. We asked, for example, if once we have identified any remaining channels, we should create a new class of primary LPTV and TV translator stations?

118. In the Sixth Further Notice, we observed that currently the rules do not permit low power and TV translator stations to operate on certain channels within specified distances of full service stations.¹⁹⁵ For example, a UHF low power or TV translator station is not permitted to operate on a channel that is seven channels above a full service station unless the low power station is located 100 kilometers or more from that station. There are similar restrictions for other UHF channels. While these rules are intended to protect against interference, in many instances interference would not occur between stations operating at closer distances due to terrain or other factors. The current LPTV interference protection rules do not allow for terrain shielding and other mechanisms, such as co-location of adjacent channel stations. We do, however, permit applicants for LPTV and TV translator stations to

¹⁹⁵ See Section 74.705 of the rules, 47 CFR §74.705.

request a waiver of the rules to take terrain shielding and other mechanisms into account.¹⁹⁶ In order to provide low power operations with additional flexibility, we proposed to allow any low power operation that is adversely affected by the implementation of DTV or our spectrum recovery efforts to take terrain and other appropriate engineering factors into account in finding replacement channels. We proposed to permit such low power stations to use any available channel, provided interference is not caused to any authorized full service NTSC or DTV operations or to other authorized low power operations. Under this plan, applications that would rely on terrain shielding to avoid interference would need to be supported by the written assent of the operator of the potentially affected station or service or, alternatively, an engineering analysis showing that interference to the off-air reception of the DTV station or other primary service would not be likely due to terrain shielding. We also requested comment on any other actions we could take that would provide low power stations with additional flexibility to find replacement channels.

119. We requested comment on whether, once DTV channels have been allotted to full service television broadcasters, we should afford licensed LPTV stations a window of opportunity to seek "primary" use of DTV channels; that is, ahead of new broadcast entrants. We asked whether if so, such stations should be permitted to seek full service DTV licenses or facilities that would replicate their LPTV coverage areas. We asked how we should proceed in areas where there would be more LPTV stations than available channels and whether we should allow multiple LPTV licensees to share a DTV channel, by multiplexing their signals. We asked whether, given the large numbers of stations in the LPTV service, we should consider such a provision only for certain LPTV stations; for example, those which meet the programming and public interest requisites for LPTV cable must carry, as set forth in the 1992 Cable Act.

120. Comments. Parties representing LPTV and TV translator interests express considerable concern with regard to the impact that the implementation of DTV service will have on their service and ask that we take a wide range of steps to avoid or reduce that impact.¹⁹⁷ These parties generally submit that low power stations provide important and valuable local and other program services oriented to minority and special interests in their

¹⁹⁶ Generally, an applicant for a low power TV or TV translator station may support a terrain waiver request by obtaining the assent of a potentially affected station or, alternatively, by submitting an engineering study, based on terrain profiles, which demonstrates that interference would not occur due to the effects of the terrain. See Commission Policy Regarding Terrain Shielding, 3 FCC Rcd 2664 (1988), *recon granted in part*, 3 FCC Rcd 7105 (Terrain Shielding Policy Statement); see also, First Report and Order in MM Docket No. 93-114, 9 FCC Rcd 2555 (1994), which broadened the scope of the LPTV terrain waiver policy.

¹⁹⁷ Parties addressing the concerns of low power stations include AAPTS, Acadiana Cable Advertising, Inc. (Acadiana), Acrodyne, ALB, Apogee, Aries, Bruno-Goodworth Network, Inc. (BGN), Joint Broadcasters, Busse Broadcasting Corp. (Busse), CBA, Channel 6, Community Teleplay, Inc. (CTI), Arnold Cruze, DSD, Holston Valley Broadcasting Corporation (HVBC), Island Broadcasting Co. (Island), KSCI-TV, KUED-TV, KYNE-TV, Lindsey, SHBC, Mr. Richard Smith, Silver King, Telemundo, Tiger Eye, UCI, the U.S. Broadcast Group Licensee, L.P.I. (USBGL), VenTech, WatchTV, and WJYL-TV.

communities that should be preserved.¹⁹⁸ UCI states that because of the lower cost of building and operating LPTV stations, as well as the fact that they were the only option available to minority programmers in many markets, a disproportionately high percentage of minority programming is carried on LPTV stations. It states that these services would be lost if LPTV stations are displaced.¹⁹⁹ APTS specifically asks that we take steps to ameliorate the impact of DTV allocations on noncommercial translator service.²⁰⁰

121. In a March 6, 1997, letter to Chairman Hundt, 53 members of the United States Senate also urge that we address the interests of LPTV and TV translator stations.²⁰¹ The Senators, *inter alia*, encourage us to make more efficient use of the spectrum and eliminate current technical restrictions such as the UHF taboos in order to reduce the impact on low power operations.

122. Low power interests generally support our proposal to allow low power stations that are displaced by new DTV stations to apply for a suitable replacement channel in the same area without being subject to competing applications.²⁰² For example, CBA supports liberal displacement relief for LPTV stations by permitting them to apply for any other available channel on a first come first served basis, without waiting for an application filing window.²⁰³ The DSD submits that we should allow low power stations to change channels through minor, rather than major, change procedures.²⁰⁴ Under DSD's plan, channel changes could be made with FCC notification and a 30-day publication requirement. Applicants would be required to certify that they has performed a channel availability study prior to filing. The DSD states that this change, while it would not obviate the costs of modifying equipment and installation of a new antenna, would go far to alleviate the impact on these services generally. Acadiana and Busse, however, submit that allowing low power stations to apply for replacement channels is not satisfactory means for ameliorating the DTV impact on

¹⁹⁸ See for example, comments of CBA, p. 1; Channel 6, p. 2-3; UCI, pp. 6-7; and USBGL, p. 5.

¹⁹⁹ UCI comments, pp. 6-7.

²⁰⁰ APTS comments, p. 40.

²⁰¹ See Letter, dated March 6, 1997, to Honorable Reed E. Hundt, Chairman, Federal Communications Commission from Senator Wendell H. Ford, *et. al.*

²⁰² The parties that specifically express support for allowing low power stations to apply for replacement channels without being subject to competing applications include Busse, CBA, CTI, DSD, KSCI-TV, KULC-TV, Silver King, Telemundo, UCI, and VenTech.

²⁰³ CBA comments, p. 14.

²⁰⁴ DSD comments, pp. 10-11.

these stations.²⁰⁵ They argue that low power stations, as the least affluent members of the broadcast community, are the most poorly equipped to undertake the expense and engineering study involved in searching for unoccupied space in a shrinking spectrum environment.

123. AAPTS, Channel 6, CTI and KSCI-TV support our proposal to allow LPTV and TV translator stations to continue to operate until a new, displacing DTV station is operational on their channels.²⁰⁶ AAPTS, Acrodyne, CTI, and KSCI-TV state that this policy should apply to low power stations on channels both within and outside the core region. CTI also agrees that LPTV stations should be able to file non-window displacement relief applications to change their operating parameters. KUED-TV supports our proposal to permit low power stations to operate outside the DTV core spectrum. They also state that we should require television receiver manufacturers to support these channels.²⁰⁷

124. AAPTS states that we should require new non-broadcast users of reallocated spectrum to compensate translator and LPTV licensees that they displace for the costs those licensees incur in moving to a new channel.²⁰⁸ However, it does not believe that new DTV licensees should be required to compensate translator or LPTV licensees for moving costs since the latter constructed their facilities with the knowledge that they were secondary to full service broadcast facilities. Apogee, BGN, CBA, Channel 6, Cruze, CTI, KUED-TV and VenTech argue that a DTV licensee displacing a low power station should be required to pay for the LPTV channel change, or pay it for the lost business opportunities in the event that no channel is available. Channel 6 states that compensation would ease the transition to new channels and help to ensure the continued operation of low power service.²⁰⁹ KUED notes that most translator licensees are non-profit, do not have the funds for replacement and a new translator station can cost up to \$50,000.²¹⁰ BGN submits that LPTV stations forced off the air by reallocation of spectrum should be compensated at least one million dollars from revenues obtained through the spectrum auction.²¹¹ CBA argues that such compensation should be awarded irrespective of whether the low power stations's channel is inside or outside the core spectrum. It argues that such compensation could come from the full service station that chooses to displace the LPTV station rather than use another channel; but

²⁰⁵ Acadiana comments, pp. 5-6; Busse comments, p. 5.

²⁰⁶ AAPTS comments, p. 40; Channel 6 comments, p. 3; CTI comments, p. 3; KSCI-TV comments, p. 3.

²⁰⁷ KUED-TV comments, p. 7.

²⁰⁸ AAPTS comments, p. 40.

²⁰⁹ Channel 6 comments, p. 3.

²¹⁰ KUED-TV comments, p. 7.

²¹¹ BGN comments, pp. 5-6.

indicates that it may be more appropriate that compensation come from auction revenues.²¹²

125. APTS, Apogee, CBA, and VenTech submit that we should take additional steps to encourage or require cable systems to carry local LPTV stations. APTS argues that we should allow noncommercial TV translators, whether providing NTSC or DTV service, to qualify for carriage on cable systems under Section 615 of the Communications Act.²¹³ It states that Section 615 explicitly requires carriage of noncommercial educational translators with five watts or higher power serving a cable franchise area.²¹⁴ Apogee believes that LPTV stations that meet certain local origination, children's programming and regulatory standards should be given the benefits of "must-carry" rights.²¹⁵ CBA supports greater incentives for cable carriage of LPTV. It suggests, for example, that we permit cable operators a 20-cent subscriber rate increase in return for adding an LPTV signal and through establishing reasonable leased access channel rates.²¹⁶ VenTech states that in the event that our cable "must carry" authority survives, it would be appropriate to require all cable operators to carry LPTV stations.²¹⁷

126. Apogee submits that, as an alternative, we could require DTV operators proposing a multi-channel service to provide a replacement channel for displaced LPTV operators at a cost comparable to the LPTV station's operating costs.²¹⁸ Benton supports adoption of a plan that would provide for channel sharing in DTV broadcasting to lessen the impact on LPTV stations.²¹⁹ It states that existing LPTV stations should be afforded priority in such sharing arrangements. Benton also proposes that a channel sharing plan also include new entrants to broadcasting. SHBC believes that the rules should permit broadcasters to negotiate with LPTV and TV translator station operators for the purpose for transmitting their signal.²²⁰ It believe such arrangements could allow broadcasters to serve areas where interference cannot be avoided during the transition. On the other hand, BET opposes allocating free spectrum for LPTV and TV translator stations that have secondary status in the

²¹² CBA comments, p. 18.

²¹³ See 47 U.S.C. § 535.

²¹⁴ APTS comments, p. 41.

²¹⁵ Apogee comments, p. 4.

²¹⁶ CBA comments, pp. 15-16.

²¹⁷ VenTech comments, p. 8.

²¹⁸ Apogee comments, p. 4.

²¹⁹ Benton comments, p. 5.

²²⁰ SHBC comments, p. 5.

current TV licensing process.²²¹ It states that the interests of a diversity of viewpoints mandates that a wider pool of applicants be allowed to apply for new spectrum that could be used for DTV and other services.

127. Many parties representing low power television interests submit that we should provide for conversion of LPTV and TV translator stations to DTV service.²²² For example, CBA submits that LPTV stations that survive the transition should be permitted to migrate, on a permanent basis, to digital operations on any available channel where interference would not be caused, when and as they are ready to do so.²²³ CBA states that as existing service providers, these stations should be given access to available spectrum before the general public is permitted to apply. It further submits that full service broadcasters should be subject to a "use-it-or-lose-it timetable." Acadiana and Busse argue that, where feasible, we should provide each LPTV and TV translator station with a channel on the DTV Table and allow them to determine when to make the transition to DTV service.²²⁴ The DSD and Freedom similarly request that we leave the transition of low power stations to DTV service to the market.²²⁵ Freedom argues that low power stations should be under no requirement to make a transition to DTV, either having to wait for some specific opening date or to change by a specified date at the end. The DSD is concerned that the costs of transition on a fixed schedule could be more expensive than low power operators could afford. It further requests that once the DTV Table is adopted the existing freeze on low power applications should be lifted. It states that new applications should be required to demonstrate compliance with all required D/U separation criteria, and would be licensed on a secondary, non-interference basis. The DSD believes that this approach would mitigate some of the lack of new entry built in to the current proposal. Acrodyne, a manufacturer of low power and full service TV transmitters, argues that low power broadcasters should be given the opportunity to provide DTV services immediately so as to be able to compete effectively with other DTV providers in their markets.²²⁶ It states that many of the low power transmitters currently in use and being manufactured can be easily converted/modified for use with DTV signals, thereby allowing LPTV broadcasters to implement DTV service early.

128. Cruze, HVBC and Mr. Smith believe that we should reserve some channels for low power operations in order to preserve the local television service provided by these

²²¹ BET comments, p. 11.

²²² The parties addressing conversion of low power stations to DTV service include Acadiana, Acrodyne, BGN, Busse, CBA, DSD, and Freedom.

²²³ CBA comments, p. 20.

²²⁴ Acadiana comments, pp. 6-7; Busse comments, p. 7.

²²⁵ DSD comments, pp. 11-12; Freedom comments, p. 9.

²²⁶ Acrodyne comments, pp. 1-2.

stations. Cruze recommends that we preserve channels 60-69 for use by existing translators and displaced translator operations.²²⁷ HVBC suggests that we allocate perhaps four UHF channels just above the final full service TV band for the exclusive primary use of LPTV stations and the secondary use of TV translators.²²⁸ Mr. Smith supports reserving the top ten channels of the UHF band for low power service, whether it be channels 51-59 or 60-69 and states that we should allow displaced stations the first opportunity to move to these channels.²²⁹

129. Low power TV operators and others also submit that we should afford low power stations priority in access to spectrum not needed for implementation by eligible broadcasters and additional spectrum that may become available.²³⁰ For example, Apogee states that as a matter of fairness and equity, displaced LPTV operators should be given first priority in any surplus DTV channels. Apogee also argues that priority should be afforded to multi-channel DTV applicants who agree to allocate one or more channels to displaced LPTV stations.²³¹ Aries, Channel 6, CTI, UCI, Venture Technologies Group (VenTech), and WatchTV believe that we should provide a window of opportunity for LPTV and TV translator stations to seek primary status before new applicants are allowed to apply for DTV channels.²³² HVBC argues that LPTV stations that originate programming should be afforded primary status.²³³ KYNE proposes that we establish a new class of LPTV license called a "Primary Low Power TV Station" that would provide primary status to low power stations if they meet the same responsibilities and programming requirements as full service stations.²³⁴ KSCI-TV argues that channels for TV translators and on-channel repeaters should be given a priority over other low power stations.²³⁵ It states that translators are used to provide the signal of a full service station to viewers who cannot receive the full service station because of terrain factors.

²²⁷ Cruze comments, p. 2.

²²⁸ HVBC comments, p. 14.

²²⁹ Mr. Smith comments, pp. 5-6.

²³⁰ Parties that believe we should afford low power stations priority or primary status with regard to available spectrum include AAPTS, Aries, the Joint Broadcasters, Channel 6, CTI, HVBC, KSCI-TV, KYNE, UCI, VenTech, and WatchTV.

²³¹ Apogee comments, p. 4.

²³² Aries comments, p. 3; Channel 6 comments, p. 3; CTI comments, p. 5; UCI comments, p. 8; VenTech comments, pp. 3-4; WatchTV comments, pp. 2-3.

²³³ HVBC comments, p. 10.

²³⁴ KYNE comments, p. 4.

²³⁵ KSCI-TV comments, p. 3.

130. The Joint Broadcasters state that after the initial construction period, it would be appropriate to give LPTV and translator stations that were displaced from their existing channels special consideration in assigning DTV channels that are still unassigned or have not been built.²³⁶ APTS argues that we should give noncommercial translators priority in using newly available spectrum. It states that this priority should be afforded in two ways.²³⁷ First, it states that until one year after DTV stations are required to commence operation, we should make vacant noncommercial DTV channels available only for noncommercial translator service except where an applicant proposes to operate a full service noncommercial station on the channel. Second, it recommends that, for noncommercial translators that 1) provide a first noncommercial service to an area and 2) were required to cease operation as a result of the commencement of a DTV service, we provide a preference over other translator and LPTV applicants for all digital channels that become available in their service areas until one year after the end of the transition. The DSD disagrees with those who would make LPTV a primary service.²³⁸ It states that secondary status creates latitude for LPTV to take a leadership role in experimentation.

131. The commenting parties are generally supportive of our proposals to relax existing technical standards for location and operation of low power stations. They agree that the proposed technical changes would mitigate the impact of DTV operation on low power stations and ask that we adopt them as a start in preserving these stations. Several parties also submit suggestions for additional measures for affording relief to low power stations.

132. CBA, KSCI-TV, Telemundo and VenTech agree that we should allow displaced low power stations to take terrain and other appropriate engineering considerations into account in finding replacement channels. CBA submits that we should fully recognize and expand our existing policies regarding the use of directional antennas and terrain shielding as a means to avoid interference to full service stations.²³⁹ KSCI-TV states that because translators are normally located in mountainous areas, flat earth calculations are not relevant.²⁴⁰ VenTech requests that we use terrain limited contours for NTSC stations and take terrain into account when determining interference from LPTV stations to any other station.²⁴¹ CBA also states that LPTV and TV translator licensees should be able to use the same analytic methods, including Longley-Rice analysis, that we use in developing the DTV Table

²³⁶ Joint Broadcasters comments, pp. 52-53.

²³⁷ APTS comments, p. 37.

²³⁸ DSD comments, pp. 11-12.

²³⁹ CBA comments, pp. 11-13.

²⁴⁰ KSCI-TV comments, p. 4.

²⁴¹ VenTech comments, p. 10.

to show that a proposed new channel would not cause interference.²⁴² VenTech asks that in all cases where interference calculations are made to NTSC stations from LPTV stations, we assume the same receiving antenna patterns for determining the protection levels of NTSC and DTV stations.²⁴³

133. A number of parties representing low power TV interests request that we eliminate or reduce the existing rules intended to limit interference by low power stations to full service stations. CBA states that the interference requirements for low power stations are more stringent than the fixed mileage separation requirements applied between full service stations.²⁴⁴ It states that interference rules for low power stations should be conformed to the assumptions underlying the full power rules. It further submits that LPTV operators should always be allowed to accept any interference they are willing to endure. CTI submits that the criteria for controlling interference from low power stations should be the desired-to-undesired (D/U) signal ratios, as calculated from the currently licensed technical parameters of the stations involved.²⁴⁵

134. VenTech states that co-channel protection to DTV service from low power stations should be phased in over the first five years.²⁴⁶ It submits that once DTV receivers are available to the general public, DTV signals should be protected from co-channel low power stations at a contour 15 dB above the minimum DTV service contour. VenTech states that this should be phased to full contour protection within five years or when the DTV receiver population reaches a significant level, whichever is longer.

135. With regard to adjacent channel operation, Island proposes that we accept low power applications if the applicant demonstrates: 1) that the station's signal will not exceed the signal of an adjacent channel full service NTSC station by more than 15 dB in any area in which the full service station is significantly viewed over the air, and 2) the station's signal will not be more than 20 dB different in level from the signal received by another LPTV station operating on an adjacent channel in any area in which the potential victim LPTV station is, or is predicted to be, significantly viewed over-the-air.²⁴⁷ Island notes that this may require co-location, or near co-location of the LPTV station with the adjacent channel full service station and that the LPTV station would risk being overwhelmed by the full service

²⁴² CBA comments, p. 14.

²⁴³ VenTech comments, p. 10.

²⁴⁴ CBA comments, pp. 14-15.

²⁴⁵ CTI comments, p. 3.

²⁴⁶ VenTech comments, p. 12.

²⁴⁷ Island comments, p. 2.

station. CBA and Island submit that in cases where a low power NTSC station is on a channel adjacent to a DTV station, we should require the DTV station to minimize its impact on the LPTV station.²⁴⁸ They state that we should require the DTV station to cooperate with the LPTV station to make it possible to maintain the precise frequency separation of the two stations within the 6 Hz tolerance that minimizes the beat between the DTV carrier and the NTSC color subcarrier that shows up as interference in the NTSC picture. VenTech submits that, during the transition, adjacent channel interference from low power TV to DTV service can be reduced by additional filtering at the low power transmitter, and may also be treated at DTV receivers by filters or antenna changes, and so that in no case should such interference result in the termination of NTSC low power service.²⁴⁹ VenTech also proposes that we permit the use of first adjacent channels from sites within 3 km of an adjacent channel NTSC UHF station without a waiver request, providing that an analysis of signal strengths shows adequate protection of the adjacent channel NTSC station at receiver locations.

136. Low power interests, including Cruze, CTI, Island, VenTech, and WJYL-TV also ask that we eliminate the UHF taboo fixed mileage spacing standards for low power stations.²⁵⁰ These parties argue that the existing taboos are unnecessary for low power operations and should be eliminated as a means to mitigate the impact of DTV implementation on low power stations. For example, WJYL-TV submits the current mileage separations and taboos that apply to low power TV operation could be altered, based on improvements that have occurred in receiver technology and quality. It states that the taboos should be re-evaluated using modern day receiver sensitivity and rejection performance. Arnold Cruze recommends removing UHF taboos that cause minor or no interference to co-located stations. He argues that this has been proven in actual service when waivers have been granted. Island argues that our plan to establish a DTV core spectrum area places a priority on optimum use of the spectrum and that we can no longer afford blanket, super-safe UHF taboos.²⁵¹ Island argues that in cases where it can be shown to be probable that no interference will occur, we should allow a low power station to operate at its own risk. It states that reception tests in the New York City area show very little evidence of interference even though a number of violations of the UHF taboos exist among the stations operating there. VenTech submits that given their low signal levels, low power stations are unlikely to cause interference to stations on other than co- or adjacent channels.²⁵² It therefore argues

²⁴⁸ CBA comments, p. 12; Island comments, p. 2.

²⁴⁹ VenTech comments, pp. 9-12.

²⁵⁰ In addition to the co-channel and adjacent channel interference concerns, it is possible for stations operating on certain other combinations of channels, principally in the UHF band, to interfere with one another. Allotment constraints on these combinations (e.g., channels +/- 2, 3, 4, 5, 7, 8, 14, and 15) are known as UHF taboos.

²⁵¹ Island comments, p. 2.

²⁵² VenTech comments, p. 11.

that we should not employ taboo restrictions on low power stations during the transition. Lindsey states that we should allow LPTV stations to relocate to current oscillator, aural image and intermodulation channels at their own risk.

137. CBA and Island state that to encourage more efficient use of the spectrum, we should regulate low power TV stations by ERP rather than transmitter output power.²⁵³ They argue that the existing limit on total power output (TPO) unnecessarily restricts LPTV operation. Island submits that it is actually ERP that governs coverage and interference, not TPO. It states that if LPTV stations were allowed to operate with higher TPO, while held to the existing strict interference standards, they could easily, in many cases, raise their close-in received power level so that they could operate and survive co-located with adjacent channel full service stations. Island therefore requests that we accept LPTV applications where the only power specification is an ERP value in any azimuth or elevation direction that is no greater than 3 kW for low VHF, 10 kW for high VHF and 150 kW for UHF, and meets all other interference criteria then in effect and not waived.

138. KYNE and Lindsey requests that we allow LPTV stations to increase power to a level that would allow them to maintain a 15 dB signal to interference ratio with neighboring full service stations.²⁵⁴ They state that this change would significantly reduce the number of LPTV casualties during the DTV transition. Lindsey also argues that we should abolish our zero tolerance policy with regard to interference and allow reasonable interference to occur in an LPTV station's Grade B contour, as has always been allowed for full service stations. VenTech also submits that we should make allowances for LPTV stations to "provide greater interference to full service stations to preserve them in the spectrum."²⁵⁵

139. Telemundo submits that we should permit low power stations to co-locate with DTV or NTSC facilities. It states that by allowing displaced low power stations to co-locate with existing NTSC or new DTV stations, the necessary interference protection ratios can be maintained throughout the NTSC or DTV station's service area. It also states that we should permit displaced low power stations to increase power in order to serve their previous coverage areas following co-location of their facilities with an NTSC or DTV station. VenTech requests that we permit low power stations to operate within the land mobile protected contour on the adjacent channel to one of the land mobile assignments in Sec. 74.709(a) of the rules, provided that sufficient filtering is used in the LPTV transmitting system to protect the adjacent land mobile stations.²⁵⁶

²⁵³ CBA comments, pp. 11-12; Island comments, p. 6.

²⁵⁴ KYNE comments, p. 3; Lindsey comments, pp. 4-5.

²⁵⁵ VenTech comments, p. 6.

²⁵⁶ See 47 CFR § 74.709(a).

140. Several parties representing low power TV interests also argue that we should include low power stations in the computer software used to develop the DTV Table. Acadiana and Busse argues that by failing to include low power stations in the allotment software, we have failed to take the one step that might have illuminated the hazards facing low power operators.²⁵⁷ Busse states that we should modify our allotment software to include instructions such that in cases where a channel currently occupied by a low power station is required for the DTV transition, the program would look for an alternative channel for the displaced station. Acadiana and Busse also state that inclusion of low stations in the computer software would allow us to furnish a reasonable estimate of the scope of the impact faced by LPTV and TV translator operators. Apogee states that we should redo the draft Table taking low power stations into account and protecting them wherever possible.²⁵⁸ CBA suggests the allotment software include a penalty for displacing an operating LPTV station.²⁵⁹ It recommends that where there is a conflict between LPTV and full power stations, the first attempt should be to find an alternative DTV channel for the full service station, and that one DTV channel should be deemed equivalent to another if their NTSC replication is within 5% and there are no other serious countervailing considerations.

141. Decision. In providing all full service TV stations with a second DTV channel, we have previously found that it will be necessary to displace a number of LPTV and TV translator operations, especially in the major markets.²⁶⁰ This determination was based on studies by our staff and by our Advisory Committee on Advanced Television Service (Advisory Committee) that indicate there is insufficient spectrum available in the broadcast TV bands to factor in low power displacement considerations in making DTV allotments.²⁶¹ As the Joint Broadcasters state in their comments in response to the Sixth Further Notice, during the transition there is simply not enough available spectrum to preserve all existing translators and LPTV stations.²⁶²

142. Notwithstanding our decision to maintain the secondary status of low power stations, we are concerned about the impact of DTV implementation on low power services,

²⁵⁷ Acadiana comments, pp. 2 and 6; Busse comments, p. 6.

²⁵⁸ Apogee comments, p. 3.

²⁵⁹ CBA comments, p. 17.

²⁶⁰ See Second Report/Further Notice, at paras. 39-45; and Second Further Notice, at para. 41.

²⁶¹ See "Interim Report: Estimate of the Availability of Spectrum for Advanced Television (ATV) in the Existing Broadcast Television Bands." OET Technical Memorandum, FCC/OET TM88-1, August 1988 and, "Interim Report: Further Studies on the Availability of Spectrum for Advanced Television," OET Technical Memorandum, FCC/OET TM89-1, December 1989; and, "Preliminary Analysis of VHF and UHF Planning Subcommittee Working Party 3, Doc. 0174 (June 1991).

²⁶² Joint Broadcasters comments, p. 33.

especially the impact with regard to LPTV stations, and believe it is desirable to take certain steps to minimize the impact on those stations. As discussed below at paragraphs 144 to 147, we are adopting a number of changes to our rules, including many of the changes to the technical rules requested by the low power TV and TV translator industries, that will provide additional flexibility to accommodate low power operations during and after the transition to DTV, and thereby substantially mitigate the impact of DTV implementation on this segment of the television industry. We believe that these changes will provide significantly more relief for LPTV than the reservation of channels, as suggested by some commenters. We further believe that these technical relaxations are consistent with the technical changes suggested in the Senate letter on low power. We also note that as secondary operations, LPTV and TV translator stations will be able to continue to operate until a displacing DTV station or a new primary service provider is operational and would receive interference from the low power TV or TV translator station. In this regard, we will continue to allow low power operations on all existing TV channels, including channels 60-69, provided that such operations do not cause harmful interference to any primary operations. We will also permit displaced LPTV or TV translator stations to request operation on these channels on a non-interfering basis.

143. In summary, we believe that the rule changes we are adopting below will preserve many existing low power operations and will open many new channels for those low power operations that might be displaced by DTV. We estimate these changes will permit hundreds of LPTV and TV translators to continue providing service to their viewers. With regard to compensation, as indicated above, we will address this issue in our forthcoming Notice of Proposed Rule Making on reallocation of channels 60-69. Finally, we recognize that most low power stations can continue to operate throughout the DTV transition. We intend to consider in a future rule making whether to create a new class of low power television broadcast stations that would modify the secondary status of these stations and provide them some level of interference protection.

144. Channel Displacement Relief. We are adopting our proposal to allow low power stations that are displaced by new DTV stations to apply for a suitable replacement channel in the same area without being subject to competing applications.²⁶³ As suggested by CBA, we are also amending our rules to indicate that such applications will be considered on a first-come, first-served basis without waiting for the Commission to issue a low power application window. Under this approach, the LPTV licensee requesting such a channel or related facilities change would submit an application for the requested channel change. If no other prior requests for that channel had been made within the same area and the application is acceptable for filing, the Commission would propose to grant the application. Assuming no

²⁶³ This streamlined low power licensing procedure, described herein, will also apply to a request for any channel change from a low power station that is displaced by a DTV station. To provide LPTV operators with as much flexibility as possible in finding a replacement channel, the channel change request can include a replacement channel for NTSC operation or a channel change to be used for DTV operations, on a case-by-case basis. We will also permit displaced stations to request an increase in power or other facility modifications necessary to avoid interference or permit it to continue serving its current coverage area.

negative comments or petitions to deny, the request would be granted at the end of the 30 day period. We believe that this approach will minimize the administrative burden and uncertainty in finding replacement channels for displaced LPTV operations.

145. *Technical Rule Changes.* We find that the current interference rules for low power operations are overly restrictive and are adopting a number of rule changes that will provide additional operating flexibility for low power stations, as follows:²⁶⁴

a) *Low Power-to-Low Power Considerations.* As suggested by CBA and Island, we are deleting the current taboo restrictions on use of a channel either 7 channels below or 14 channels above the channel of another station in the low power TV service. We will also allow LPTV and TV translator stations to make use of terrain shielding, Longley-Rice terrain dependent propagation prediction methods and appropriate interference abatement techniques to show that the station will not cause interference to other low power operations. As suggested by Island, we will also allow low power TV and TV translator station operators and applicants to agree to accept interference from other low power TV and TV translator stations.

b) *Low Power-to-NTSC Considerations.* We are eliminating the requirement that low power stations consider the existing full service UHF taboo restrictions on channels +/- 2, 3, 4, or 5 removed from an existing NTSC station, except for stations operating at higher power levels as specified below. These taboos are no longer needed based on measurements conducted by the ATTC.²⁶⁵ We will also allow LPTV and TV translator stations to make use of terrain shielding, Longley-Rice terrain dependent propagation prediction methods, and appropriate interference abatement techniques to show that the low power station will not cause interference to NTSC stations. As suggested by CBA and Island, we will permit low power operations on a channel 7 channels below a full service NTSC operation if it can be shown that the low power station's coverage area is not within an area where the affected NTSC station is regularly viewed over-the-air.

c) *Low Power-to-DTV Considerations.* We are establishing clear D/U signal ratios for interference between low power and DTV operations based on the performance of the ATSC system. We are limiting considerations between low power and DTV operations to co-channel and first adjacent channel interference factors only. In addition, we are specifying that a low power operation need protect only actual DTV operating facilities. In this regard, applications for low power stations will be accepted provided they specify a site outside of the noise-limited service areas, based on actual facilities, of co-channel or adjacent channel DTV

²⁶⁴ For example, the current UHF taboo channel restrictions are based on the interference potential of full service stations operating on these channels. Low power stations are subject to some of the same UHF taboo restrictions even though they operate at much less power and therefore have much less potential for causing interference.

²⁶⁵ See for example, "Record of Test Results Channel Compatible DigiCipher HDTV," Taboo Interference into NTSC, Table 19-9A, page 1-19-35, Advanced Television Test Center, January 1993.

stations.²⁶⁶ For co-channel operations, applications for low power stations will be accepted if the low power station's field strength at the edge of the noise-limited service area of the DTV station would be more than 21 dB below the field strength of the DTV station.²⁶⁷ For adjacent channel operations, applications for low power stations will be accepted if the proposed low power station's field strength at the edge of the DTV station's noise-limited service area is less than +48 dB above the field strength of the DTV station.²⁶⁸ Alternatively, applications for low power stations proposing to locate at a site within an adjacent channel DTV station's noise-limited service area will be accepted if the applicant demonstrates that the ratio of the proposed low power station's field strength to that of the DTV station is less than +48 dB at all points within the noise-limited service area of the DTV station. We agree with CBA that low power stations should be permitted to use up-to-date, sophisticated methods of predicting signal coverage, to enable the most efficient use of the spectrum.²⁶⁹ We will allow low power TV and TV translator applicants to make use of terrain shielding and the Longley-Rice terrain dependent propagation methods and other established engineering techniques, such as receiving antenna modelling, to show that interference will not be caused to DTV stations. We will also consider amending our rules in a future proceeding to change our application acceptance criteria to reflect this approach after we have gained practical experience with these techniques and have upgraded our application processing software accordingly.

146. We will entertain requests to waive the LPTV protection standards where it can be demonstrated that proposed LPTV or TV translator stations would not cause any new interference to the reception of TV broadcast analog stations; that is, an LPTV or TV translator station would not be predicted to interfere at locations where there is not already predicted interference from other NTSC TV broadcast stations. We agree with the CBA, Island and other commenters that co-locating with adjacent channel NTSC and TV facilities may prove a vital means of the survival for some LPTV stations. CBA comments that operational experience and measurements show that LPTV and NTSC stations can operate at

²⁶⁶ For the purposes of this analysis, the noise-limited service or coverage area of a DTV station is defined as the geographic area where the station's field strength exceeds the values for noise-limited service, as specified in § 73.622(e) in Appendix E herein and in the Fifth Report and Order, less any geographic area where interference may occur from other DTV or NTSC operations.

²⁶⁷ The Advisory Committee's test results indicate that 21 dB is the minimum acceptable D/U ratio between a DTV signal and an undesired NTSC signal in areas at the edge of a DTV station's service contour, where interference from low power service can be expected to occur. See "Record of Test Results of the Grand Alliance System," Advanced Television Test Center, October 1995, Section I-12-2.

²⁶⁸ +48 dB is the maximum allowable (U/D) ratio between an undesired NTSC signal and a desired DTV signal and is based on the performance characteristics of the ATSC DTV System. This value is shown as a D/U ratio in Appendix A.

²⁶⁹ CBA comments, p. 14.

the same or nearby locations on adjacent channels and on channels separated by fourteen channels.²⁷⁰ Accordingly, we will entertain waiver requests for low power and TV translator applications proposing co-located or nearly co-located facilities to those of TV broadcast analog stations operating on the first adjacent channel above or below, or the fourteenth adjacent channel below. These applications will be accepted if the applicant demonstrates that the predicted signal strength of the proposed station does not exceed by more than 15 dB the signal strength of a first adjacent station, or by more than 23 dB the signal strength of a fourteenth adjacent channel station, at locations within the station's protected contour where the station is regularly viewed. A waiver based on "near" co-location could enable an LPTV station to operate on a channel adjacent to that of a full power station located on a different tower in the same antenna farm. Until we gain some experience with near co-located operations, as described above, we are favorably inclined to limit consideration of such waivers to applications for "displacement relief" filed by LPTV and TV translator permittees and licensees in jeopardy of losing their channels. Finally, we will consider waiving the LPTV interference protection standards when the applicant obtains the written consent of the potentially affected NTSC or TV licensee or permittee to the grant of the waiver. This policy, which has worked well for terrain shielding waivers, permits a full service licensee or permittee to concur that interference is unlikely, but without absolving the LPTV or TV translator applicant of the responsibility to eliminate interference caused to the regularly viewed signal of the station.

147. Currently, stations in the low power TV service are limited to total power output (TPO) of 1000 watts for UHF channels and 10 watts for VHF channels. We agree with Island, VenTech and others that the actual ERP of the station is a more appropriate factor for determining coverage and interference and that the existing TPO limit may be unnecessarily restrictive. We are, therefore, amending our low power rules to replace the existing TPO limits with limits for effective radiated power (ERP), as follows:

Frequency Band	NTSC Power	DTV Power
VHF	3 kW	300 W
UHF	150 kW	15 kW

However, applications for low power NTSC stations on UHF channels proposing an ERP exceeding 50 kW will continue to be subject to the current taboo restrictions for the +/- second through fourth adjacent channels, although we will consider waivers of these restrictions based on showings of noninterference. We believe that the impact on the fifth adjacent channel is sufficiently minimal to permit us to generally eliminate this restriction as a

²⁷⁰ CBA comments, Technical Exhibit, p.5

processing standard in the LPTV service. Although we are providing maximum values of digital ERP for the low power television service, we will defer to a future proceeding matters relating to the general authorization of digital television by low power and TV translator stations.

D. Use of TV Channels 3, 4 and 6

148. In the Sixth Further Notice, we proposed not to allot both Channels 3 and 4 within the same community wherever possible to avoid potential interference to cable terminal devices (set-top boxes) and videocassette recorders (VCRs). These devices typically use either channel 3 or 4 for their output signal and could be vulnerable to interference if there were an off-the-air signal present on the same channel as their output signal. In order to avoid possible interference either to or from FM radio service, we also proposed to make DTV allotments to TV channel 6 only where there is no other readily available allotment opportunity that would provide for adequate replication of an existing station's service area. For cases where it might be necessary to use channel 6, we proposed to apply an appropriate standard similar to that currently specified in the rules to protect against interference between NTSC Channel 6 and FM radio.²⁷¹

149. Comments. The Joint Broadcasters and the EIA support our proposal to avoid use of channels 3 and 4 in the same market to avoid problems in using cable terminal devices and videocassette recorders.²⁷² They agree that cable systems, broadcasters, equipment manufacturers and the public should not be burdened with the interference problems that would ensue if neither channel 3 nor 4 is available for VCR and cable set-top box use. The EIA states that consumers will obviously benefit enormously if there is no increase in the potential for interference to VCRs and set-top boxes.

150. The Santa Monica Community College District (SMCCD), the licensee of an FM radio station in Santa Monica, CA supports our proposal not to use channel 6 for provision of DTV service. It is concerned that the quality of its FM radio service would be degraded if we were to allot channel 6 for DTV operation in Los Angeles. On the other hand, the Joint Broadcasters submit that, with proper engineering design and safeguards, channel 6 can be used for DTV during the transition. They indicate that the lower power of DTV transmitters, the improved performance of DTV transmitters with regard to out-of-band emissions, and improved performance capabilities of DTV receivers will reduce the potential for interference

²⁷¹ The rules regulating TV channel 6 and FM radio interference are set forth in 47 CFR 73.207(c), 73.525 and 73.610(f). TV channel 6 is restricted with respect to the IF separation to FM channel 253 (Section 73.610(f) of the rules). Commercial FM stations on channel 253 and noncommercial educational FM stations on FM channels 201-220 must protect TV channel 6. There are no restrictions on new TV channel 6 stations or changes with respect to FM channels 201-220.

²⁷² Joint Broadcasters comments, p. 18; EIA comments, p. 5.

between DTV channel 6 and FM radio service.²⁷³

151. Decision. We continue to believe it is important to avoid the allotment of both channels 3 and 4 in the same market and to avoid the use of channel 6 in developing DTV allotments. As we observed in the Sixth Further Notice, broadcast operation on both channels 3 and 4 in the same market would result in conflict with cable terminal devices, VCRs and other TV interface devices that provide output signals selectably on either channel 3 or 4. Also, DTV operation on channel 6 could pose potential conflicts with FM radio service on adjacent frequencies. Accordingly, we have developed the DTV Table to avoid any instances where channels 3 and 4 would both be used in the same area and have minimized the use of channel 6, so that the new DTV Table contains only two allotments on channel 6.

E. Land Mobile Sharing

152. In the Sixth Further Notice, we set forth proposals for protecting against possible interference between DTV stations and land mobile operations. The rules currently authorize sharing between land mobile and TV operations on frequencies in the range of UHF channels 14-20, which occupy the 470-512 MHz band, in 13 urbanized areas, the Gulf of Mexico offshore region and Hawaii.²⁷⁴ Based on the performance characteristics of the ATSC DTV system, we proposed to allow DTV stations to operate at co-channel and adjacent channel spacings to the city-center of land mobile operations as close as 250 km (155 miles) and 176 km (110 miles), respectively.²⁷⁵ We also noted that some additional conditions may be

²⁷³ Joint Broadcasters comments, p. 48.

²⁷⁴ See 47 CFR §2.106, Notes NG66, NG114 and NG127. The 13 urbanized areas where UHF channels may be used for land mobile operations and the channels set aside for such operations in those areas are:

	TV Channel
New York-Northeastern New Jersey	14, 15
Los Angeles	14, 16, 20
Chicago-Northwestern Indiana	14, 15
Philadelphia, PA-New Jersey	19, 20
Detroit, MI	15, 16
San Francisco-Oakland, CA	16, 17
Boston, MA	14, 16
Washington, DC-Maryland-Virginia	17, 18
Pittsburgh, PA	14, 18
Cleveland, OH	14, 15
Miami, FL	14
Houston, TX	17
Dallas, TX	16

²⁷⁵ Currently, our practice is to evaluate petitions for rule making requesting new television allotments on the same channel as, or first adjacent channel to, a channel used in a nearby area for land mobile service on a case-by-case basis. In these case-by-case evaluations, spacing standards derived from policy statements in Docket No. 18261 are used. Under these standards, the transmitter site of a new NTSC TV station must be at

necessary in those few instances where these spacing distances cannot be met.

153. The draft DTV Table included with the Sixth Further Notice assumed that channel 20 would remain available for land mobile operations in Philadelphia. However, the broadcast industry, in developing sample DTV plans, assumed that the land mobile use of channel 20 in Philadelphia would be eliminated and that this frequency would be available for DTV purposes. We recognized, as argued by broadcasters, that the elimination of channel 20 for land mobile operations in Philadelphia could significantly reduce the interference among TV stations in the congested northeast corridor. We also recognized that there are a substantial number of land mobile operations licensed in the Philadelphia area.²⁷⁶ We therefore requested comment on the impact of eliminating channel 20 use for land mobile service in Philadelphia and on whether the reduction in interference to broadcast service would outweigh the benefits of maintaining channel 20 for land mobile use in Philadelphia. We also noted that our existing border agreements with Canada preclude activation of land mobile stations on channels 15 and 16 in Detroit and channels 14 and 15 in Cleveland, and proposed to make these channels available for DTV allotment purposes in those markets.

154. Comments. The Joint Broadcasters submit that we should allow a minimum co-channel spacing of 240 km (146 miles) between DTV allotments and the city center of land mobile channels that occupy channels in the range 14-20.²⁷⁷ They state that these spacings are necessary to avoid interference to NTSC and DTV service. UTC submits that we need to ensure that the proposed separation distances will adequately protect land mobile operations operating pursuant to the new private land mobile refarming rules that were adopted in PR Docket No. 92-235.²⁷⁸ It asks that we review our proposed co-channel and adjacent channel spacing criteria for DTV and land mobile operations in light of the power, antenna height and channel spacing requirements applicable to land mobile operations pursuant to the new refarming rules.

155. Land mobile users and parties representing their interests also express concern that interference will occur where DTV allotments are short-spaced to land mobile operations.

least 345 km (212 miles) from the city-center of a co-channel land mobile operation and at least 230 km (140 miles) from the city-center of an adjacent channel land mobile operation. In the Second Further Notice, we stated that because DTV stations are expected to operate with 10 dB less power than NTSC stations, we believe it is acceptable to allow DTV stations to operate closer to land mobile operations than is permitted under our current TV station/land mobile spacing policy. We stated that we generally believe that it would be possible to allow DTV stations to operate at co-channel and adjacent channel spacings to the city-center of land mobile operations as close as 250 km (155 miles) and 176 miles (110 miles), respectively. Second Further Notice, at para. 46. We maintained this proposal in the Sixth Further Notice. Sixth Further Notice, at para 76.

²⁷⁶ Over 600 licenses have been granted for land mobile use of channel 20 in the Philadelphia area.

²⁷⁷ Joint Broadcasters comments, p. 45.

²⁷⁸ UTC comments, p. 10.

APCO, the LMCC, Motorola and UTC submit that adjustments to the draft DTV Table are necessary to protect existing public safety and land mobile operations.²⁷⁹ These parties are particularly concerned that short-spaced DTV allotments in the New York, San Francisco, and Los Angeles areas would disrupt land mobile service in those areas. APCO notes that land mobile transmitters are allowed to operate anywhere within a 50-mile radius of the geographic center of the relevant city. It states that in several instances adjacent channel DTV operations in the draft Table would be virtually co-located with existing land mobile facilities. Motorola similarly notes that in some cases allotments in our draft Table would be as close as two miles to the reference coordinates of adjacent channel land mobile cities. The LMCC argues that without modification, our draft DTV allotment plan would result in interference to land mobile operations.²⁸⁰ UTC states that the broadcast community and the Commission should offer technical solutions to protect these important land mobile operations.²⁸¹ Motorola states that without significant reductions in DTV out-of-band emissions (at least 30 dB), land mobile use of its allocated spectrum will be impossible. Motorola also provides specific recommendations for alternative allotments to minimize this inter-service problem.

156. AC Transit is concerned that our proposals to allot channels 15 and 18 for DTV use in the San Francisco area could conflict with its operations on channels 16 and 17.²⁸² The CDGS states that these DTV allotments would adversely affect the current land mobile operations permitted on channels 14-20 in California, including vital public safety operations on those channels.²⁸³ It notes that the draft Table provides no separation between proposed DTV allotments on channels 15 and 18 and land mobile channels 16 and 17 in the San Francisco/Oakland metropolitan area. It also notes that the draft Table provides no separation between the proposed DTV allotment on channel 21 in Los Angeles and land mobile channel 20. It further states that the proposed DTV allotments on channel 15 in Corona (66 km separation) and channel 19 in San Bernardino (88 km separation) provide significantly less than the proposed 176 km minimum separation distance. The CSAA is concerned that interference could occur to its land mobile operations on channel 17 frequencies if we allot channels 18 and 19 for DTV service in the San Francisco area, as proposed on the draft Table.²⁸⁴ LA County is particularly concerned with regard to the proposed allotment of

²⁷⁹ APCO comments, p. 4; LMCC comments, pp. 2, and 12-16; Motorola comments, p. 2; and UTC comments, p. 11.

²⁸⁰ The LMCC notes that our recently released Inventory of Spectrum Usage shows 41,705 land mobile base and fixed stations operating within these channels. The LMCC also notes that private radio statistics from our 1994 annual report show over 400,000 transmitters authorized for that band at that time.

²⁸¹ UTC comments, p. 11.

²⁸² AC Transit comments, pp. 2-3.

²⁸³ CDGS comments, p. 2.

²⁸⁴ CSAA comments, p. 1-3.

channel 15 for DTV use in Corona, CA.²⁸⁵ It states that the transmitter site for this station would be on Mt. Wilson, just 2.2 miles from a current channel 16 land mobile radio base station used by the Sheriff's Department. It states that this allotment would pose a significant danger of harmful interference both to vital safety communications and to the television service to be broadcast on that channel. It also submits that other fixed and mobile transmitter sites that operate on channel 15 are also in the "line of sight" of Mt. Wilson and could be affected by interference.

157. A number of local government administrations and public safety users submit that our draft Table allotment of channels 18 and 21 for DTV use by TV channel 65 in Vineland, NJ and TV channel 9 in Secaucus, NJ, respectively, would harm public safety communications in the Pennsylvania/New Jersey area.²⁸⁶ For example, the MVFC states that the Gloucester County Communications Center and the local emergency response units have recently converted to the 500 MHz band at a cost of millions of dollars to taxpayers. It submits that the taxpayers of Gloucester should not have to pay the cost in loss of lives, property and tax dollars that will occur if TV station operate on these frequencies. It estimates that the costs to again replace the local radio and paging system would be in excess of \$100,000. In addition, Congressman Rob Andrews and Congressman Curt Weldon submitted joint comments stating that while they support our effort to expand use of the spectrum to allow DTV service, they are concerned that the operation of existing public safety communications systems could be impeded in Pennsylvania and New Jersey.²⁸⁷ They submit that any allotment of DTV channels that would hinder the effectiveness of these networks is not in the public interest and urge that we adopt a different approach. In addition, Chris-Craft/United Group (Chris-Craft) is also concerned that the allotment of channel 18 in the draft Table for its WWOR-TV, Secaucus, NJ would cause unacceptable interference to land mobile operations in Philadelphia on adjacent channel 19 and asks that we change this allotment.²⁸⁸ It notes that the distance between the tower site for the Secaucus station on the World Trade Center and center-city reference location for Philadelphia is only 80 miles, which is 60 miles short of the proposed 140 miles adjacent channel spacing to land mobile systems.

158. The LMCC and Motorola provide suggestions for engineering solutions to prevent interference to the land mobile operations in short-spaced situations.²⁸⁹ They first

²⁸⁵ LA County comments, p. 9-10.

²⁸⁶ These parties include the Barnsboro Fire Co. No. 1 (BFC), the Glassboro Emergency Medical Services (GEMS), the Mantua Volunteer Fire Company (MVFC), and many others.

²⁸⁷ Congressmen Andrews and Weldon are Co-chairmen of the Congressional Fire Services Caucus.

²⁸⁸ Chris-Craft comments, p. 3.

²⁸⁹ LMCC comments, pp. 13-16; Motorola comments, p. 15.

submit that a significant tightening of the DTV emissions mask may partially reduce the level of interference for some of the adjacent channel situations. The LMCC states that in practice many NTSC transmitters currently provide approximately 60 dB of protection at the band edge. It also submits that some channel 14 and channel 69 stations already operate at reduced power and/or have installed additional filtering to the visual carrier in order to help reduce interference to adjacent channel land mobile users. In an appendix to its comments, Motorola provides a technical discussion indicating that a minimum 30 dB of additional attenuation in the DTV emissions mask is needed to minimize the potential for adjacent channel interference to land mobile services from short-spaced DTV allotments. Motorola also suggests that we modify the DTV allotment plan to allow short-spacings on an *ad hoc* basis. It states that in some cases, even more attenuation will be needed to avoid the loss of useable mobile spectrum. Both the LMCC and Motorola state, however, that given the extreme short-spacings involved in some of the draft DTV allotments, and the relative powers of television and land mobile operations, it is unlikely that additional filtering of the DTV output will be the total solution for avoiding harmful interference. Motorola notes that the draft Table included 13 cases where the adjacent channel is less than 10 miles from land mobile operations. It indicates that even greatly reduced DTV emissions will not eliminate adjacent channel interference problems close to (i.e., within 10 miles) a DTV transmitter nor would it address the potential for land mobile interference to DTV receivers. It states that this is an issue where continued analysis is needed by all parties concerned. Motorola urges that we indicate on any short-spaced DTV license that it remains the obligation of the DTV licensee to correct any interference without cost to the land mobile licensee. It notes this approach is consistent with our "last in fixes the interference problem" policy we have already adopted for TV licensees operating on channels 14-20 that are adjacent to land mobile operations.

159. Land mobile interests argue that we should maintain and protect the current allocation of channel 20 for land mobile use in Philadelphia. APCO notes that there are an estimated 9,600 units licensed to public safety agencies now operating on channel 20 in Philadelphia and argues that these are vital operations that must not be disrupted.²⁹⁰ The Department of Communications, County of Bucks, PA (Bucks County) similarly states that it operates a twenty frequency pair police radio system on channel 19 (500-506 MHz) and has been looking for frequencies in channel 20 (506-512 MHz) that might help to alleviate its current crowding.²⁹¹ UTC states that a number of its members operate systems on channel 20 in Philadelphia and that, given the extreme congestion in the land mobile frequencies in the northeast corridor, alternative spectrum may be difficult, if not impossible, to locate. It submits that we should not force these licensees to relocate without identifying adequate replacement spectrum and that we should impose an obligation on the DTV licensees that will operate in this band to pay to relocate the land mobile users to comparable facilities.²⁹²

²⁹⁰ APCO comments, p. 18.

²⁹¹ UTC comments, p. 2.

²⁹² UTC comments, pp. 10-11.