

for a full power station. We believe that on balance the benefits of maintaining service from low power stations in such cases outweigh the relatively small incremental costs for full service stations. We therefore will amend the rules in this regard, as suggested by CBA and NTA.

(4) Digital Operation by Low Power Stations

122. CBA, DSD, Island Broadcasting Co. (Island), KASA-TV, Inc. (KASA), and Paxson LPTV request that we reconsider our decision to defer to a future proceeding the question of digital operation by low power stations. CBA, KASA and Paxson LPTV state that some LPTV operators wish to be at the forefront, not the tail end, of the digital transition. They argue that these operators should be permitted to lead and to experiment with digital operation now, without waiting for another rule making to be initiated and completed. CBA submits that there is no reason to preclude DTV operation by low power stations now. It states that if an LPTV station can operate successfully in analog mode, no additional interference potential will arise if the station converts to digital operation with a 7-10 dB power reduction.

123. Decision. While we recognize the desire of low power operators to be allowed to begin providing DTV service at the same time as full service stations, there are a number of issues that need to be addressed through a notice and comment rule making proceeding in providing a general authorization for low power TV and TV translator stations to offer DTV service. We believe these issues are best addressed through a separate proceeding, which we intend to initiate in the near future. As noted in the Sixth Report and Order, we will consider requests by low power operators to operate DTV service on replacement channels on a case-by-case basis under our displacement relief policy prior to our adoption of general rules for DTV operation by low power stations.⁸¹

(5) Primary Status for Low Power Stations

124. CBA, Cordillera, KPDX, Paxson LPTV, and WHNS request that we take steps to establish a permanent class of LPTV stations with primary allocation status. CBA urges that we commence a rule making proceeding in the near future to allow LPTV stations that are willing to meet full service operating standards the opportunity to obtain primary status. Paxson LPTV submits that we could reduce the existing hardships by establishing a home for LPTV stations while nearby vacant spectrum is unassigned.

125. Decision. On September 30, 1997, CBA submitted a petition for rule making requesting that we create a new "Class A" television station class. As proposed by CBA, Class A status would be made available to qualified low power television stations providing substantial local programming service and would avoid the displacement of such stations by affording them primary status against all but full power television stations authorized as of the date of the

⁸¹ See Sixth Report and Order, at footnote 263.

petition. We believe that issues relating to primary status for LPTV stations are best addressed in the context of our consideration of this petition, and therefore will defer consideration of all such issues, including those raised by petitioners requesting reconsideration in this proceeding, to a future action addressing CBA's petition for rule making.

(6) Compensation for Low Power Stations

126. APTS/PBS, CBA, KMC and Skinner request that we provide for compensation of low power stations that are displaced in the DTV implementation process. These petitioners generally request that we reconsider our stated intention to consider reimbursement for displaced low power stations in a separate proceeding. As stated by KMC, they argue that the issue of whether, and how LPTV stations should be compensated is an integral part of the DTV allotment process and should not be deferred to a future proceeding. CBA argues that in cases where an LPTV station cannot survive the DTV implementation process, its owner should be compensated, either from auction funds or by the displacing full service station. Skinner argues that in the past when we have cleared a band to permit a new radio service, we have required the newcomer to compensate the incumbents for the cost of relocating. It states that there is no good reason why LPTV and TV translator licensees should not be afforded the same treatment. Skinner therefore requests that we adopt a reasonable reimbursement policy for all unavoidably displaced secondary stations. It submits that such reimbursement should equal a low power station's fair market value as of the time it is forced off the air by a full service station's DTV operations. APTS/PBS requests that we require commercial operators that acquire reclaimed spectrum to reimburse any public television translator stations that will be displaced as a result of the initiation of DTV service.

127. Decision. We do not believe that it is appropriate to require broadcasters to implement DTV and at the same time require them to compensate secondary low power stations that are affected by this required implementation. We also continue to believe that compensation with regard to reclaimed spectrum is best addressed in proceedings that specifically consider the reallocation of spectrum and rules for new services. We note that in our Report and Order in the channel 60-69 reallocation proceeding, we found no basis for requiring new public safety and commercial services to provide monetary compensation to low power stations on channels 60-69 for altering their operations because low power stations are secondary operations that are authorized to operate on those channels on a secondary basis.⁸² We also stated that we will consider whether there are any other steps that may be of benefit to LPTV and TV translator stations as we develop service rules for the new commercial spectrum.

G. Land Mobile Sharing Issues

128. In the Sixth Report and Order, we provided for protection against possible

⁸² See Report and Order in ET Docket No. 97-157, at paras. 26-27.

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.⁸³ In developing the DTV Table, we generally attempted to provide allotments for DTV stations at co-channel and adjacent channel spacings to the city-center of land mobile operations of at least 250 km (155 miles) and 176 km (110 miles), respectively. We also established these separation distances in the rules as the land mobile-to-DTV spacing standards for any future DTV allotments.⁸⁴

129. The Joint MSTV Petitioners argue that a minimum co-channel spacing of 240 km or less is sufficient when combined with tailored engineering to protect land mobile operations in the congested markets. They also submit that land mobile operations have different contours in different cities and that protecting all land mobile channels to the same degree in all directions is simply unnecessary and comes at the expense of preserving existing television service in certain regions of the country. They note that in the Sixth Report and Order, we indicated that the spacing requirements were chosen to be very conservative.⁸⁵ The Joint MSTV Petitioners therefore state that in some limited number of cases, particularly in the congested areas, we should relax the land mobile protection criteria to the extent that doing so will better accommodate DTV allotments. Paxson submits that the same type of case-by-case interference analysis used to analyze interference between television stations should be used to analyze interference from television stations to land mobile services.

130. Decision. The DTV-to-land mobile spacing standards adopted in the Sixth Report and Order were derived from the spacing standards for sharing between NTSC and land mobile

⁸³ 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

⁸⁴ See 47 CFR 73.623(e)

⁸⁵ See Sixth Report and Order, at para. 164.

services. Taking into account that DTV stations will operate at less power than NTSC stations, we reduced the required co-channel separation from 345 km (212 miles) to 250 km (155 miles) and reduced the required adjacent channel separation from 230 km (140 miles) to 176 km (110 miles). The petitioners have presented no information that indicates these spacings are not appropriate for sharing between DTV and land mobile services. While we stated that these spacing standards are conservative, we believe that the fact that this sharing environment involves a service where there is substantial mobility of transceiver units warrants a conservative approach. That is, the fact that automobiles and other vehicles may travel in and out of a service area in the course of their operations makes it difficult to identify and resolve interference problems if they should occur. While we agree that protecting all land mobile channels to the same degree in all directions is unnecessary in many instances, we believe that such reductions in protections should have the agreement of all affected parties. Accordingly, we will permit modifications of DTV allotments that do not meet the minimum DTV-to-land mobile spacing standards where all affected land mobile licensees agree. We are amending the rules to reflect this change.

H. Use of Existing Transmitter Sites

131. In the Sixth Report and Order, we provided that applications for authority to construct or modify DTV facilities may specify an alternate location for the DTV transmitting antenna within 5 km (3 miles) of the DTV allotment reference coordinates (the 5-km rule).⁸⁶ The Joint MSTV Petitioners argue that this flexibility is unwise because movement of a transmitter even just 5 km may significantly affect interference that may be caused to other stations. They submit that in the case of co-located adjacent channel NTSC and DTV stations, we should refrain from granting automatic flexibility, except where both stations involved consent to the move. They next state that we should require all other stations seeking to relocate within a 0.1 to 5 km radius to submit an interference showing. Under this plan, if the interference resulting from the relocation would be serious and substantial, we would provide the public with an opportunity to comment. If the proposed relocation would cause no or *de minimis* interference, we would expeditiously process the request with no public comment. The Joint MSTV Petitioners argue that this process would preserve our desire to provide broadcasters with flexibility and preserve the integrity of the DTV allotments. ABC Inc. states that while it agrees with the Joint MSTV Petitioners' position that an engineering showing should be required with all requests for relocation of DTV transmitter sites, we should go further and require that all affected stations have notice and the opportunity to rebut any such showing.

132. Decision. We recognize that some additional interference may occur as a result of stations relocating their transmitter sites under the 5-km rule. We anticipate, however, that such relocations will occur principally in cases where stations are unable to use their existing antenna site or wish to co-locate with one or more other stations in order to reduce interference or

⁸⁶ See Sixth Report and Order, at para. 102; see also Section 73.622(d), 47 CFR 73.622(d).

improve service. We are therefore faced with the choice of freely permitting such moves or placing licensees in a position where they may be unable to construct their DTV facilities or must operate in a manner or from a site that will result in diminished service for themselves and perhaps others. On balance, we continue to believe that providing broadcasters with this flexibility in locating their DTV transmitting facilities is appropriate, even though in some cases additional interference may result. Nevertheless, we are concerned that relocations under this flexibility do not lead to substantial new interference. We therefore will continue to monitor relocations under this rule and will make any adjustments that may be necessary through our two-year review process.

I. Noncommercial Allotments and NTSC Station Modifications

(1) Replacement of Deleted Vacant Noncommercial NTSC Allotments

133. In the Sixth Report and Order, we stated that we will consider establishing additional noncommercial reserved allotments on recovered channels for those existing vacant noncommercial allotments that cannot be replaced now.⁸⁷ AAPTS/PBS express concern that it is not clear from this statement whether we will replace all vacant reserved allotments deleted from the NTSC Table that can fit in the DTV Table at the end of the transition or whether some action will be required by the public broadcasting community to re-instate those channels. They request that we clarify that we will, in fact, reinstate and reserve for noncommercial use all remaining deleted reserved channels at the end of the transition insofar as possible, consistent with the criteria for new DTV allotments.

134. Decision. As requested by AAPTS/PBS, we are clarifying that we will, on our own motion, at the end of the transition period, consider establishing additional DTV noncommercial reserved allotments for existing noncommercial reserved NTSC allotments that cannot be replaced at this time.

(2) NTSC Modification Applications

135. Cannell, Cornerstone TeleVision, Inc. (Cornerstone), Flinn Broadcasting Corporation (Flinn), Longmont, Paxson, Ramar and Viacom request that we reconsider our decision to condition grant of NTSC modification applications pending after April 3, 1997, the adoption date of the Sixth Report and Order, on the impact these modifications would have on DTV service.⁸⁸ Cannell, Paxson, and Ramar argue that broadcasters with applications pending as of April 3 should not be subject to DTV constraints simply because we did not complete processing of those applications prior to that date. Cannell further argues that processing only

⁸⁷ See Sixth Report and Order, at para. 112.

⁸⁸ Cornerstone and Viacom state that they support Paxson's request for reconsideration regarding the treatment of NTSC modification applications.

those applications already on file would not prevent us from achieving our service replication goal. It contends that because the number of such applications is finite, once approved they would not affect the DTV Table any more than applications that were approved prior to April 3. Cannell, Paxson and Ramar submit that we should give comparable treatment to all parties that had applied to modify their television facilities during the pendency of the DTV proceeding. Paxson and Ramar specifically request that we process all modification construction permit applications pending as of July 25, 1996, and grant them with full DTV replication of the requested NTSC facilities.

136. Flinn Broadcasting Corporation (Flinn) and Longmont argue that our DTV allotment plan has arbitrarily and unfairly denied existing licensees the right to upgrade to maximum facilities. They argue that the fact that a station has not been able to achieve maximum facilities does mean that it should be unfairly penalized. Flinn and Longmont therefore request that we revise the DTV allotment plan to protect the maximum authorized facilities of existing stations and permittees.

137. Decision. In order to achieve our DTV full accommodation and service replication objectives it is necessary to limit modifications of existing NTSC station facilities in cases where such modifications conflict with DTV allotments. This approach is consistent with our plan to convert all television operations to DTV service in the future. Parties were given notice of this policy in the Sixth Further Notice and had opportunity to submit comment on it thereunder. We decided, after considering the comments on this issue, that it is necessary to limit modifications of NTSC facilities where such modifications would conflict with DTV allotments.⁸⁹ In this regard, all modifications granted after July 25, 1996, the date of adoption of the Sixth Further Notice, were subject to a condition that the modification not impact the DTV allotments. We were, however, able to remove this condition for modification requests granted as of the date of the Sixth Report and Order based on our finding that they would not conflict with DTV allotments. Applications that remained pending after that date are subject to the same review for impact on DTV allotments as those applications granted prior to April 3 from which we removed the conditions. Thus, we find that our procedures for processing applications for modifications of NTSC facilities before April 3 and after that date are consistent and fair. In addition, we find Paxson and Ramar's request that we process all NTSC modification applications and grant DTV full replication of those expanded facilities is counter to our service replication policy. Accordingly, we are denying the petitioners requests that we process all modification construction permit applications pending as of July 25, 1996, and grant them with full DTV replication of the requested NTSC facilities. We also reject Flinn and Longmont's argument that we have unfairly denied existing licensees the right to upgrade to maximum facilities. As indicated above, it is necessary to limit modifications of NTSC facilities in some cases in order to protect DTV allotments. Accordingly, we are denying Flinn and Longmont's request to protect the maximum authorized facilities of existing licensees and permittees.

⁸⁹ See Sixth Further Notice, at paras. 60-61; and Sixth Report and Order, at paras. 112-113.

J. International Coordination.

138. In the Sixth Report and Order, we noted that we have been coordinating for some time now with Canada and Mexico on the allotment of DTV channels in the border areas.⁹⁰ We indicated that we are working to complete interim agreements on DTV allotments with both of these countries and that we have also coordinated the DTV Table with the Canadian and Mexican administrations and believe that it will be generally acceptable to them. We stated that we therefore expect only minor adjustments will be necessary to conform the Table to these agreements.

139. Several petitioners with existing stations located in areas near the United States' international borders, including Cannell, Century Development Corporation (Century), Cordillera, Grant, and Mt. Mansfield and also the Joint MSTV Petitioners express concern that we have not yet finalized our agreements with the Canadian and Mexican administrations regarding the allotment of channels for DTV service in the border areas. These petitioners generally submit that prompt international coordination is an essential prerequisite for their planning, land use, and investment decisions during the DTV transition. For example, the Joint MSTV Petitioners state that the absence of final agreements with Canada and Mexico regarding DTV allotments along the border areas leaves a large number of stations in a state of uncertainty that may impede the rapid buildout of DTV. Mt. Mansfield states that it needs to be able to design and construct its DTV facilities with some certainty that final coordination on border allotments will not disrupt its efforts. These petitioners urge that we conclude our coordination agreements with Canada and Mexico promptly so that the DTV allotments in the border areas may be finalized. Grant also expresses concern that Canada may try to restrict U.S. border stations permanently to the lower power levels assigned for the transition period -- effectively precluding future station upgrades. It therefore urges that we negotiate with Canada for full power operation of U.S. stations in border areas so that U.S. stations may properly plan their transition to DTV.

140. Decision. The DTV development process has been a cooperative North American effort. Both Canada and Mexico have participated in our advisory committee process. All subjective testing of the DTV system, in fact, was carried out in Canada. Both Canada and

⁹⁰ See Sixth Report and Order, at para. 171. Use of television frequencies in the Canadian and Mexican border areas currently is governed by international agreements. Use of these frequencies in the Canadian border area is governed under the "Agreement Relating to the Allocation of Television Channels," exchange of notes at Ottawa April 23, and June 23, 1952, entered into force June 23, 1952, 3 UST 4443, TIAS 2594, 207 UNTS 25, Amendment: February 26 and April 7, 1982 (TIAS 10645). Use of these frequencies in the Mexican border areas is governed under two agreements: 1) "Agreement Relating to the Assignment and Use of Television Channels Along the United States-Mexican Border," exchange of notes at Mexico April 18, 1962, 13 UST 997; TIAS 5043; 452 UNTS 3; and 2) "Agreement Relating to Assignment and Usage of Television Broadcasting Channels in the Frequency Range 470-806 MHz (Channels 14-69) Along the United States-Mexico Border," signed at Mexico June 18, 1982, entered into force January 17, 1983, TIAS 10535, Amendments: October 31, 1984 and April 8, 1985, June 22 and October 19, 1988.

Mexico are now in the process of considering the implementation of DTV in their respective countries. We are also negotiating and coordinating the implementation of our DTV allotments with the Canadian and Mexican administrations. This international coordination effort is continuing in a cooperative manner. While we seek to complete this process as quickly as possible, these are complex matters that require careful study and planning by parties on both sides of the negotiations. We do not believe that this coordination will disrupt the channel allotments for stations in the border areas or delay their ability to begin DTV service. In this regard, we have signed a Memorandum of Understanding with Mexico relating to cooperation in the use of TV channels for DTV service⁹¹ and have established an informal working group with Canada to facilitate the coordination effort. We disagree with Grant that we should negotiate for full power operation by U.S. stations in the border areas. Such an approach would likely result in conflicts with the DTV allotment plans and needs of our neighbors and would, in fact, not be achievable on our own side of the borders without affecting full accommodation of all broadcasters.

K. Negotiations and Frequency Coordinators

141. Throughout this proceeding we have recognized that the implementation of DTV service will be a dynamic process. In the Sixth Report and Order, we encouraged the broadcast industry to continue their current voluntary coordination efforts. We indicated that an approach similar to that set forth in the Broadcasters Caucus' petition would appear to provide an appropriate model for industry coordination of DTV allotment and facility modifications.⁹² We also stated, however, that we believe it is important that any voluntary negotiation or coordination effort be open to all affected parties. We therefore required that such negotiations be open to all affected parties, including low power broadcasters and the public. In this regard, we indicated that we will review all requests for modification of the DTV Table for their impact on low power stations. We also advised parties coordinating proposals for changes to the DTV Table that we will not consider requests for allotment modifications that would relocate an allotment to a channel in channels 60-69, and that we will not consider creating new DTV allotments in this area of the spectrum.

⁹¹ See "Memorandum of Understanding Between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones Y Transportes of the United Mexican States Related to the Use of the 54-73 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz bands for the Digital Television Service Along the Common Border," signed April 2, 1997.

⁹² The Caucus suggested that DTV coordinating committees function according to the basic principles established in the private land mobile radio service for frequency coordinators. In particular, it proposed that the coordinating committees: 1) be representative of the industry; 2) generally process requests in the order in which they are received; 3) provide all stations that might be affected by a proposed change notice and an opportunity to comment, object, or submit their own proposals that could be precluded by a proposal under consideration; 4) provide coordination services on a nondiscriminatory basis for reasonable fees; 5) serve in a purely advisory role to the Commission; and 6) help resolve licensee disputes. The Caucus also proposes that the committees function in a coordinated fashion nationwide.

142. AK Media, EBC, Granite, the Joint MSTV Petitioners and Malrite request that we amend Section 73.622(c) of the rules to exempt not only intra-community channel swaps from the rule making process, but also exempt intra-market and inter-market DTV channel swaps from this process as well.⁹³ In this regard, Granite and the Joint MSTV Petitioners note that while Section 73.622(c) of the rules exempts channel swaps between stations within the same community from the petition for rule making process, inter-market exchanges can be achieved only by filing a petition for rule making to amend the DTV Table, thereby making the process more difficult. These petitioners therefore request that we allow inter-market channel exchanges also to proceed upon application. AK Media and Granite state that this change would facilitate efficient resolution of technical problems facing stations by equalizing the treatment of inter-market and intra-community swaps and eliminating unduly burdensome and time-consuming procedural requirements.

143. AAPTS/PBS, Granite, Millwright Communications Group (Millwright), the Joint MSTV Petitioners and Malrite request that we clarify that licensees may negotiate modifications to the DTV Table among themselves, as long as no additional interference occurs. These petitioners state that while Section 73.623(f) of the rules authorizes DTV stations to operate with increased facilities even if interference is caused to an analog station where the analog station agrees, the rest of the rules are silent on whether parties may negotiate channel swaps, relocations of antenna sites, and other changes they believe desirable.⁹⁴ These petitioners urge that we modify the rules to state that we will approve negotiated changes in the Table that do not result in any increased interference to DTV allotments, NTSC stations or applicants that are not parties to the agreement. They further request that we clarify that such negotiations can include the payment of money or other consideration from one station to another, including payments to and from public television stations.

144. CBS, Granite, Great Trails Broadcasting, Inc. (Great Trails), the Joint MSTV Petitioners, and Television Wisconsin (TV Wisconsin), request that we provide a more well-defined industry DTV allotment coordination process. CBS and the Joint MSTV Petitioners submit that a smooth roll-out of DTV requires a streamlined mechanism for changing DTV channel allotments. The Joint MSTV Petitioners argue that the existing petition for rule making procedure to change allotments, which has proven burdensome in the NTSC world, is unsuited to handle the inevitable flow of proposed adjustments to the DTV Table, especially given the stringent build-out requirements that broadcasters must meet. They urge that we adopt an approach that minimizes the number of petitions filed to amend the DTV Table and encourages regional solutions to shared problems. Great Trails states that to encourage stations to participate in DTV coordination activities and the development of market-wide solutions, they need assurance that the activities of those committees will be given credence by the Commission. It states that we need to empower the DTV coordinating committees and accord their activities

⁹³ See 47 CFR 73.622(c).

⁹⁴ See 47 CFR 73.623(f).

some degree of deference. The Joint MSTV Petitioners urge that we take steps on reconsideration to establish DTV coordinating committees, define their appropriate role, and provide the tools these committees will need to help broadcasters and the Commission as DTV rolls out.

145. Blade and Cordillera request that we provide more extensive guidance on how the industry committees should be organized and governed. Blade specifically requests that we consider the effect of "private parties" that may attempt to control coordination committee efforts. In its opposition/comment filing, Viacom similarly seeks assurances that the committees will be neutral. It also requests that we indicate that the Commission will always serve as the final arbiter of any coordinating committee determination that is questioned by any interested party. The Urban LPTV Parties submit that our statement advising industry allotment coordinating committees to consider LPTV and TV translator stations is inadequate. They submit that we should be mindful that LPTV and TV translator stations are actually competitors, albeit with fewer resources than full service station. The Urban LPTV Parties therefore state that we should fortify the language requiring consideration of low power stations to indicate that coordinated solutions will not be considered unless they include proof of actual meeting notice to affected LPTV and TV translator stations, actual consultation with such stations, and actual service of copies of FCC submissions with the opportunity to comment separately.

146. Decision. Section 73.622(c) allows stations within a community to negotiate the exchange of DTV channel allotments; such exchanges must include the technical parameters associated with those allotments.⁹⁵ Section 73.623(f) permits DTV stations to operate with increased power and antenna height that would result in additional interference if the affected stations agree to accept the additional interference. These rules permit changes through the application process. In the Sixth Report and Order, we also indicated that we would consider any negotiated or coordinated change to the DTV Table where all affected parties agree and the allotment modifications do not include relocating an allotment to a channel in channels 60-69. It is our intention to provide licensees the maximum flexibility to negotiate changes in their DTV allotments where such changes do not cause interference to other stations or where all affected stations agree to accept any additional interference that may result. We agree with the petitioners that the rules permitting such negotiations need to be clarified to fully reflect this policy. Accordingly, we are modifying Sections 73.622(c) and 73.623(f) to provide that licensees and permittees may file applications that implement such exchanges of allotments on an intra-community, intra-market, or intermarket basis, provided that the exchanges do not result in additional interference beyond our *de minimis* standard to other stations or that all affected stations agree to accept any additional interference that would result from the exchange, and that the all other requirements of the DTV allotment rules are met with respect to the application.⁹⁶

⁹⁵ These technical parameters include transmitter site, power, and antenna pattern and height.

⁹⁶ In this regard, we will clarify that Section 73.622(c) also applies to co-located facilities that may be allocated to a different community.

Such negotiated exchanges will be allowed to include modifications of the technical parameters of the allotments. We are also clarifying that negotiated agreements under these rules can include the exchange of money or other consideration from one station to another, including payments to and from noncommercial television stations operating on reserved channels.

147. Parties should be afforded as much flexibility as possible in the negotiation process so they may address situations that may be unique to their particular circumstances. Our voluntary negotiation plan already has served well as a framework for the coordination of DTV allotment changes: an agreement on a new regional DTV allotment plan recently was negotiated by the Eastern Washington and Northern Idaho DTV Allocation Caucus (EWNIC). We believe that this process is sufficiently open and neutral because all affected parties must concur with the changes. The Commission, of course, retains ultimate authority over these changes. In addition, as stated in the Sixth Report and Order, we believe it is important that voluntary negotiation or coordination efforts be open to all affected parties, including low power broadcasters and the public, and therefore have required that such negotiations be open to all affected parties. In this regard, we indicated that we will review all requests for modification of the DTV Table for their impact on low power stations. We believe that this review process provides sufficient incentive for coordinating parties to include low power licensees in their deliberations. We also recognize broadcasters' interest in the establishment of an industry committee system for coordination of DTV allotment changes with oversight by the Commission. We therefore will initiate a separate rule making proceeding in the near future and seek comment on whether we should adopt such a committee system and, if so, procedures for its operation. It is our intention that consideration of an industry coordination committee system not delay the implementation of DTV service. Furthermore, voluntary coordinations and negotiated agreements will continue to be processed throughout the pendency of our proceeding on that matter.

L. Other Allotment Issues

(1) Protection of Existing NTSC Service

148. Cannell Cleveland, L.P. (Cannell), Pulitzer, Roberts Broadcasting of Cookeville, LLC (RBC), and WHNS request that we adopt rules to protect NTSC stations in cases where interference would occur from DTV stations. Pulitzer states that the negative effects of DTV operations on NTSC service could be ameliorated or avoided if temporary limits or caps were placed on transmitter power or antenna heights of interfering DTV stations. It states that such caps could be applied narrowly, for example, in cases where an NTSC station objects and the interference is not *de minimis*. Pulitzer states that such temporary caps would be consistent with the Commission's general DTV policy that permits DTV licensees' initial facilities to serve only the community of license. It states that these temporary caps should be subject to the biennial reviews and that as the DTV audience grows the Commission would be free to relax the caps where the circumstances may justify.

149. Decision. We are not adopting rules to place limits or caps on DTV operations in

cases where the DTV Table predicts interference to NTSC service or where an NTSC licensee objects to new interference. In developing the DTV Table we attempted to minimize all interference. Nevertheless, in some instances it was necessary to allow increased interference to NTSC service. Our goal in this proceeding is to provide for the transition to DTV service so that the benefits of this new technology can be brought to the American people in an expeditious and efficient manner. To handicap the provision of this new service by placing caps on DTV transmissions or otherwise limiting the provision of DTV service would thwart this goal.

(2) Use of Booster Stations

150. Sunbelt Television, Inc. (Sunbelt) observes that the Grade B contour defines the areas in which fill-in booster stations can be operated and also determines (in a broad sense) those areas in which television stations have "must carry" rights on cable television systems. Sunbelt is concerned that the DTV allotment plan replicates an existing station's service area as computed using the "Longley-Rice" method of service prediction, which takes terrain into account. It argues that this approach will cause broadcasters such as itself to lose their current rights to make their actual service coterminous with their current predicted-Grade-B contour through the use of TV booster stations and may result in some stations losing protection under the "must-carry" rules. Sunbelt submits that we should make allowances to ensure that the existing rights of broadcasters to provide service, by whatever means, throughout their existing predicted Grade B service areas are preserved.

151. Decision. We disagree with Sunbelt that we should protect service provided by secondary booster stations. Under our service replication approach, the service area of a DTV station is determined based on the main transmitting facilities of the associated NTSC station. Extensions of this service area either through the use of booster stations or TV translators are not considered. Accordingly, we are not protecting areas outside a station's service area that are served by booster stations. "Must carry" issues regarding DTV service will be addressed in a separate proceeding.

(3) Minimum DTV Operating Power Requirement

152. Fireweed Communications Corporation (Fireweed) and Lincoln Broadcasting Company (Lincoln) express concern that the 50 kW minimum authorized power for DTV stations will require some stations to build more powerful facilities than their current NTSC stations. Fireweed submits that in the case of a small NTSC station such as its KYES-TV in Anchorage, Alaska, that serves a small rural community, the unnecessary expense of higher power could present an unnecessary barrier delaying provision of DTV service. Lincoln, the licensee of KTSF-TV, NTSC channel 26 in San Francisco, California, is concerned about the feasibility of operating the station's DTV service at the minimum power level on upper adjacent DTV channel 27. It states that the new rules are unclear whether KTSF-TV and similarly situated stations would be permitted to operate their DTV facility at less than the 50 kW minimum power.

153. Decision. The transmitter power values associated with the DTV allotments are, in general, the values needed for a station to replicate its existing NTSC service. Due to the concerns about transmitter power disparities between larger and smaller stations and to ensure that all stations remain competitive in the future in the provision of DTV services, however, no station was assigned a power level less than 50 kW. We are clarifying, herein, that this 50 kW value is the maximum permitted power level for stations assigned 50 kW and that such stations may operate at lower power levels.⁹⁷ In addition, of course, the 50 kW level may be increased through our maximization procedures.

(4) Calculation of Maximum Allowable Power and Antenna Height

154. The Joint MSTV Petitioners request that we provide more guidance on how an existing licensee should calculate its maximum permissible power level and antenna height when it seeks to modify its facilities or change its channel. They observe that Section 73.622(f)(1) specifies that the maximum power and maximum antenna heights for allotments included in the initial DTV Table of Allotments are in Appendix B.⁹⁸ They also observe that Section 73.622(f)(3) further provides that DTV licensees may request increases in these initial specifications up to the maximum permissible limits on DTV power and antenna height set forth in this section or up to that needed to provide the same geographic coverage area as the largest station within their market. In addition, they note that footnote 70 of the Sixth Report and Order states that we will entertain requests for increases in power above 1000 kW where such additional power is needed to provide service to the station's Grade B contour and would not result in additional interference. The Joint MSTV Petitioners submit, however, that paragraphs (4)-(6) of Section 73.622(f) explicitly address only the maximum power levels and antenna heights for DTV stations that operate on allotments created subsequent to the initial DTV Table. The Joint MSTV Petitioners request that we clarify how existing licensees making facility changes calculate appropriate power levels and antenna heights, and specifically whether paragraphs (4)-(6) apply to the initial DTV allotments. They also request that we clarify the rules governing power levels and antenna heights for existing licensees that seek to change their channels.

155. Decision. We agree with the Joint MSTV Petitioners that the rules are somewhat unclear with regard to maximum permitted power levels and antenna heights for DTV operation. We are therefore amending the rules to clarify that the maximum power levels and antenna heights specified in subparagraphs (4), (5) and (6) of Section 73.622(f) apply to all DTV stations, except for those DTV allotments that are specifically provided higher values in order to better

⁹⁷ In this regard, we note that some stations may not be able to operate at the full 50 kW of power and maintain the proper power ratio between their DTV and NTSC signals. In order to avoid interference to their analog operations, such stations may also need to increase their NTSC power.

⁹⁸ See 47 CFR 73.622(f).

replicate their existing NTSC service.⁹⁹ We are also clarifying subparagraph (3) of Section 73.622(f) to indicate that DTV licensees and permittees may request increases in the maximum ERP and HAAT for a DTV allotment up to the maximum values specified in subparagraphs (4), (5) and (6) of this section or up to those of the largest station in its market in such cases where one or more stations have been specifically provided higher values.¹⁰⁰ Further, we are clarifying that these rules also apply to existing licensees that seek to change their DTV channels.

(5) Allotment Criteria for Existing and New DTV Licensees

156. The Joint MSTV Petitioners submit that the rules, in some instances, appear to apply different criteria and procedures to existing DTV licensees seeking to change their channels and new broadcasters seeking DTV channels. They state that Section 73.622(a) for example, distinguishes between requests to amend the DTV Table to change the channel of an allotment in the DTV Table (which are evaluated using the engineering criteria in Section 73.622(c)) and requests to amend the DTV Table to add a new allotment (which are evaluated using the geographic spacing criteria in Section 73.623(d)).¹⁰¹ They further note that Section 73.622(a) maintains this distinction with respect to spectrum requirements, in that it specifies that petitions for the addition of a new allotment must specify a channel between 2 and 51, and petitions for a change in the channel of an initial allotment must specify a channel between 2 and 59.¹⁰²

157. The Joint MSTV Petitioners submit that these distinctions suggest that an existing licensee requesting a modification of its DTV allotment is subject only to the engineering interference test. However, they submit that Section 73.622(d) clouds the issue because it does not appear to maintain the distinction between existing licensees and newcomers. Section 73.622(d)(1) provides that the reference coordinates of an initial DTV allotment are the coordinates of its paired NTSC station, unless the licensee moves its transmitting site more than 5 km, in which case the relocation must comply with the engineering criteria of Section 73.623(c). By contrast, Section 73.622(d)(2) provides that the reference coordinates of a DTV allotment not included in the initial DTV Table will be in the Order amending the Table (to add the new allotment) and that these must comply with both the engineering criteria of Section 73.623(c) and the geographic spacing criteria of Section 73.622(d)(2). The Joint MSTV Petitioners further submit that it is unclear whether the rule allowing licensees to move automatically within a 5 km radius applies to newcomers as well as to existing DTV licensees. They request that we clarify these two aspects of Section 73.622(d).

⁹⁹ This would also include any stations that in the future may be assigned more than 1000 kW.

¹⁰⁰ As discussed previously, however, we initially are limiting requests for maximization of power to 200 kW by UHF DTV licensees until substantial progress has been made in the rollout of DTV service.

¹⁰¹ See 47 CFR 73.622(c) and (d), and 73.623(c).

¹⁰² See 47 CFR 73.622(a).

158. **Decision.** The rules are intended to make a distinction between existing and new licensees. Petitions for new allotments will be considered only if they meet our geographic spacing criteria and if they specify a channel within the DTV core spectrum. Engineering criteria rather than spacing distances were used to develop the initial DTV Table and are to be used with regard to any changes for existing stations. This approach was taken in order to provide for full accommodation and service replication of existing facilities. The rules are correct in this regard. The rules are incorrect, however, with regard to reference coordinates. The second and third sentences of Section 73.622(d)(2) incorrectly referenced Section 73.623(c) instead of 73.623(d). We are therefore amending the rules to correct this error. This will correct the rules to specify only geographic spacing criteria for new allotments. In addition, we are clarifying that the 5 km radius only applies to existing licensees.

M. **Technical Issues**

(1) **Antenna Height Changes**

159. The maximum permissible antenna HAAT values for the DTV allotments correspond to the antenna HAAT values of the existing analog stations with which the DTV allotments are paired.¹⁰³ The Joint MSTV Petitioners and Paxson submit that most stations will be unable to mount DTV antennas at exactly the same height as their existing NTSC antennas. These petitioners state that stations will need to deviate from the maximum height specification by several meters. They indicate that the most desirable approach for many stations will be to stack their DTV antennas above or below their NTSC antennas. In this regard, Paxson states that many stations installing new NTSC antennas recently have purchased "stacked" antennas, with the NTSC antenna at the bottom and a dummy pole at the top for future installation of the DTV antenna. The Joint MSTV Petitioners note that the construction permit application form (FCC Form 301) suggests that if a station were to deviate its antenna HAAT downwards, no new showings would be required. They point out that if the station were to deviate upwards even just one meter, however, a showing of no increased interference would need to be submitted pursuant to Section 73.623(c). The Joint MSTV Petitioners and Paxson request that we not require a station to make a "no new interference" showing when it is simply stacking its antennas and deviating (increasing) its antenna HAAT a minimum number of meters, *i.e.*, no more than 10 meters, from the antenna HAAT specified in Appendix B. Paxson states that accepting such a minor antenna height change without any interference showing will help speed the implementation of DTV service.

160. **Decision.** We agree that broadcasters should be afforded additional flexibility to make minor adjustments in antenna height and power without submitting an interference showing. We will therefore permit stations to increase their antenna height by up to 10 meters

¹⁰³ The maximum antenna HAAT values for DTV stations are as set forth in Section 73.622(f) of the new rules. Section 73.622(f) provides that the maximum ERP and antenna HAAT for allotments included in the initial DTV Table are as set forth in Appendix B of the Sixth Report and Order.

without an interference showing if they reduce their DTV power in accordance with the following formula:

$$\text{ERP adjustment in dB} = 20\log(H_2/H_1)$$

where H_1 = Reference antenna HAAT specified in the DTV Table and
 H_2 = Actual antenna HAAT

We will also permit stations that decrease their antenna height by up to 25 meters to adjust their power upward in accordance with the above formula without an interference showing.¹⁰⁴ We believe that this change will enable more licensees to use our expedited checklist application procedure.

(2) Use of Directional Antennas

161. A number of parties raised questions with regard to the directional antenna patterns associated with the DTV allotments. SHBC, for example, requests clarification with regard to the use of directional antennas. It observes that the methodology we used in developing the Table has resulted in the specification of a directional antenna pattern for each DTV allotment. It states that if directional patterns are intended to be assigned with the allotments, some latitude needs to be permitted, such as plus or minus 1.5 dB from the computed directional pattern. SHBC states that it would be very difficult, or perhaps impossible, for a manufacturer to build an antenna with a pattern that exactly replicates an antenna pattern developed from terrain contours. Pulitzer notes that if the directional pattern assumed is not commercially available then the station may be required to reduce power and coverage.

162. H&E observes that the DTV replication program sometimes generates patterns that are markedly different from a station's NTSC antenna pattern. For example, it states that for KREZ-TV, NTSC channel 6 and DTV channel 17, Durango, Colorado, which has large variations in average terrain, the DTV replication pattern differs significantly from the station's omnidirectional NTSC pattern. H&E suggests that, where a station's NTSC antenna is omnidirectional, we limit the replication pattern to no more than 3 dB below the omnidirectional NTSC pattern in any particular direction, even if the DTV threshold contour extends beyond the NTSC Grade B in certain directions.

163. H&E states that the DTV replication program used a procedure that first derived the Grade B contour for an existing NTSC station, and then redefined that contour as the limit of protected service for the DTV facility (27.8 dBu for channels 2-6, 35.8 dBu for channels 7-13,

¹⁰⁴ Stations, of course, may decrease the HAAT by any amount without an increase in power and use our expedited checklist procedure.

and 40.8 dBu, with a dipole factor applied, for UHF channels). It observes that using the appropriate curves from Section 73.699 of the rules, the DTV power necessary to reach the Grade B contour was then determined radially. It states that when the maximum calculated power was found to be above the maximum power allowed (e.g., 1000 kW), the power was scaled to that maximum. H&E argues, however, that the scaling process necessarily reduces the directional replication pattern to power levels below that maximum for other azimuths, even though the replication power at those azimuths may not have exceeded the maximum power. It therefore submits that by scaling the pattern instead of truncating it at the maximum power level, the DTV station is further limited from replicating its Grade B coverage. Fox also supports truncation and further states that stations should be permitted a ± 0.075 tolerance in the antenna field expressed in the replication antenna patterns to compensate for errors caused by the scaling technique.

164. Decision. The concept of replication of service, as developed by the broadcast industry and adopted in the Sixth Report and Order, is based on the use of specific antenna patterns taking terrain considerations into account. We have long recognized in some situations, such as where a station is replicating its VHF NTSC service on a UHF channel or where there are large differences between the NTSC and DTV UHF channels, service replication can result in a station having a significantly different DTV antenna pattern from its existing NTSC pattern. We are continuing to maintain our service replication approach and are not making the changes suggested by the petitioners. Stations will be required to comply with the directional antenna patterns associated with the DTV allotment. If the pattern cannot be fully implemented, the station may reduce the power to ensure that the maximum ERP is not exceeded in any particular direction. To the extent that stations may wish to exceed their maximum ERP values, they may address such changes through our maximization rules and *de minimis* interference standard.

165. We are also not making a change from scaling to truncation as requested by H&E and Fox for stations subject to the power cap. Scaling maintains the existing antenna patterns for capped stations. The vast majority of stations subject to the power cap receive DTV allotments that would permit the provision of DTV service to an area and population greater than their existing NTSC service. We see no reason to adopt a new truncation methodology to further "improve" this situation. To the extent that increases in service are desired, we find that they are better addressed through our maximization procedures. In this regard, we will consider maximization requests from capped stations to increase power, up to the capped value, in any direction.

(3) Calculation of Coverage Area

166. H&E and the Joint MSTV Petitioners submit that our assessment of coverage overlooked some sources of interference caused by distant co-channel, adjacent channel and taboo channel stations. They state that the distances specified in the FCC software were too short to consider all the interfering stations that would have an impact on a particular NTSC station or a new DTV allotment. For example, they state that when assigning a DTV channel, the

FCC software limited the search distance for selecting all the interfering taboo stations to 35 km. The Joint MSTV Petitioners argue that a distance of at least 100 km should have been used to adequately discern all the interference caused to a DTV allotment. They state that most of these errors are of less than 0.5 percent of a station's NTSC or DTV service area.¹⁰⁵ However, they believe that correcting these errors could affect the DTV allotments for some stations. They urge that we reassess the interference and coverage for these stations and make appropriate adjustments to the DTV Table.

167. H&E observes that Appendix B of the Sixth Report and Order states that a dipole factor should be applied for UHF DTV stations, yet this is not reflected in Section 73.622(e) of the rules. It submits that if a dipole factor is to be applied, it should be reflected in the new rules. H&E also states that it is illogical to apply dipole factors as small as 0.1 dB at UHF and ignore dipole factors of up to 2.0 dB at VHF. It therefore states that we should consider extending the dipole factor to VHF channels or dispense with them as not significant.

168. Decision. We believe that our assessment of service coverage was sufficiently accurate and that the differences in our approach and that suggested H&E and the Joint MSTV Petitioners yield only minor differences in coverage estimates. We note that while our software limited the search for interfering taboo stations to 35 km, this 35 km search was made for each cell within a station's Grade B contour. Therefore, interfering stations well beyond even the 100 km range suggested by the petitioners were in fact considered in our coverage calculations. Nonetheless, we recognize that the approach for estimating service coverage and interference suggested by these petitioners is slightly more conservative than the methodology we have previously used and therefore have used this approach in calculating the service coverage and interference estimates provided in Appendix B of this Memorandum Opinion and Order. We are also incorporating this revised approach in the guidance for estimating coverage and interference provided in OET Bulletin No. 69. The use of the dipole factor for UHF, but not VHF, DTV channels was adopted at the request of the broadcast industry. Use of the dipole factor for UHF frequencies is intended to take into account the differences in antenna performance across the entire UHF portion of the TV spectrum (470-806 MHz). The antenna performance differences across channels at each end of the VHF TV spectrum (54-216 MHz) are of less concern because the range of frequencies is less than that of the UHF band. While it is true that differences between adjacent UHF channels can be as small as 0.1 dB, the range of performance difference across all 56 UHF channels is 4.6 dB. With regard to H&E's concern that the dipole factor is not specified in Section 73.622(e) of the rules, we note that this section references OET Bulletin No.

¹⁰⁵ The Joint MSTV Petitioners submit that the calculations of expected interference for 1335 NTSC and 1163 DTV stations were affected by this factor. They included a separate list of these stations with their petition. In subsequent filings, MSTV submits that using the FCC software it found that interference was underestimated in 1257 cases, where either the NTSC or the DTV service area or population or both were affected. MSTV states that these analyses indicated that in most cases the interference was underestimated by less than 1 percent of the total NTSC or DTV service area or population. It further states, however, that in 375 cases the loss was greater than 1 percent, and in 37 of those cases was greater than 5 percent.

69 which specifies use of the dipole factor for evaluating coverage area. We therefore do not believe that a specific reference in the rules is necessary.

(4) Receiver Standards

169. Gannett, the Joint MSTV Petitioners, Paxson, Univision and Viacom argue that we should establish minimum performance standards for DTV receivers. These parties generally submit that receiver standards are necessary to ensure that the goals of replicating NTSC service and minimizing interference are achieved. In this regard, the Joint MSTV Petitioners state that these goals will not be achievable if receivers do not perform at the level on which the DTV allotments are predicated. The Joint MSTV Petitioners, Gannett and Viacom submit that we should require that DTV tuners perform at least to the 10 dB noise figure for the VHF band and the 7 dB noise figure for the UHF band recommended by the Broadcasters' Caucus Technical Committee.¹⁰⁶ These petitioners state that the noise figure standards could be phased in over a reasonable three or four year transition period. In the alternative, the Joint MSTV Petitioners submit that we should ask the manufacturing industry to provide periodic updates regarding the development of low noise-figure DTV tuners. They submit that such reports would better enable the Commission, relevant industries, and the public to monitor whether more regulatory steps are necessary. The Joint MSTV Petitioners also urge that we adopt minimum receiver standards that require adaptive equalizer circuits and tuner performance to protect DTV signals from interference.

170. NTA requests that we require that NTSC receivers continue to tune through channels 60-69. It notes that in earlier years when channels 70-83 were removed from TV service, UHF translators were allowed to continue to operate on those channels. NTA states, however, that channels 70-83 quickly began to disappear from the tuning range of new TV sets, so that viewers who purchased new sets could not tune to translators operating on the higher channels. The NTA therefore urges that we include a policy statement to the effect that no matter what the outcome of the core spectrum issue, channels 60-69 will be considered in the frequencies allocated by the Commission for broadcasting for purposes of defining the required tuning range of receivers usable with NTSC signals.

171. The Electronics Industries Association (EIA) and the EIA Advanced Television Committee oppose mandatory performance requirements on DTV receivers. They argue that mandatory standards are unnecessary and that the competitive marketplace will ensure the development of high performance DTV receivers. They state that should standards prove necessary in the future, EIA stands ready to develop voluntary industry standards.

172. Decision. We continue believe that competitive market forces will ensure that DTV receivers perform adequately. We note that receiver performance involves trade-offs among

¹⁰⁶ Gannett indicates that it supports the Joint MSTV Petitioners' proposals regarding DTV receiver standards.

many different factors. We continue to believe that the television manufacturers are in the best position to determine how these trade-offs should best be made to meet consumer demand. As suggested by the Joint MSTV Petitioners and others, we will continue to monitor this area through the implementation process and we will take further regulatory action, if necessary. At this time, however, we see no need for any mandatory reporting requirements. With regard to NTA's request, we are not making any changes to the channel tuning requirements for television receivers at this time. Since channels 60-69 will continue to be used for the provision of analog television service throughout the transition period, all new NTSC television receivers must include those channels.

(5) DTV Allotments Required to Use Precision Off-Sets

173. VenTech submits that there is a mistake in the specification of the "c" designations for DTV allotments where stations are required to operate with precise carrier frequency control, as provided in Sections 73.622(b) and (g). It notes that whereas the requirement for precise frequency control is only needed to reduce interference from a DTV station to an NTSC station on a channel immediately below the DTV station, the DTV Table also includes the "c" designation on DTV allotments that are on channels immediately below an NTSC station. VenTech observes that about 40 percent of the "c" designated DTV allotments (17 DTV allotments) are not immediately above the channel of an NTSC station and therefore should not be so designated. It requests that we remove the "c" designation on these allotments.

174. Decision. We concur with VenTech that a number of allotments were inappropriately designated as requiring precision carrier frequency control and are herein correcting those allotments for which the "c" designation was in error.

(6) Spectrum for Wireless Microphones and Other Secondary Uses

175. Tribune submits that we should provide some spectrum for secondary uses of vacant channels by broadcasters. In particular, it requests that we provide some mechanism for television licensees to continue to use wireless microphones and other equipment that operate on television frequencies.

176. Decision. We will continue to permit broadcasters to use vacant television channels for the operation of wireless microphones and other secondary uses. However, consistent with the secondary status of such devices, we will not take steps to ensure the availability of spectrum for their operation.

(7) Desired-to-Undesired Signal Ratios at the DTV Noise-Limited Service Area

177. H&E, KPDX, and VenTech observe that Section 73.623(c)(2) of the new DTV rules requires that, at the DTV threshold, the desired-to-undesired (D/U) ratio must be 2 dB for DTV-into-NTSC interference and 15 dB for DTV-into-DTV interference. They also observe that the

"Note" following that section states that these co-channel D/U ratios are only valid where the signal-to-noise (S/N) ratio is 28 dB or greater. At the edge of the noise-limited service area, defined as a S/N ratio of 16 dB, the required D/U ratios are instead 21 dB for NTSC-into-DTV and 23 dB for DTV-into-DTV. H&E asks how the transition from 2 dB to 21 dB D/U for DTV-into-NTSC, and the transition from 15 dB to 23 dB D/U for DTV-into-DTV, should be modeled in the 16 dB to 28 dB S/N region. It believes that a linear ramp transition may be the appropriate method and requests clarification.

178. Decision. We are amending Section 73.623 of the rules to specify the D/U values as a function of S/N values, as requested. These values are based on measurement data presented to our advisory committee.

(8) Longley-Rice Out-of-Range Calculations

179. Granite, H&E and KPDX note that the Longley-Rice model is not always capable of determining, within certain confidence limits, whether a particular cell has service. Specifically, these petitioners point out that in cases where the actual horizon from a given cell or transmitter location is less than 0.1 times or greater than 3 times the distance to the smooth earth horizon, the algorithm will return an error code that means internal program calculations show parameters out of range, so that any reported results are dubious or unusable. These petitioners question that our allotment software assumed such cells have "interference-free" service. H&E states that while this assumption does not appear to introduce significant overall errors in urban areas of relatively flat terrain, the error code is returned much more often for studies involving mountainous or even hilly terrain. For example, it submits that our analysis ignored possible interference to over 1.1 million persons within the KABC-TV, Los Angeles, California DTV service area. It states that this is one reason that it uses the TIREM (Terrain-Integrated Rough Earth Model) model, a more sophisticated propagation loss algorithm of which the Longley-Rice routine is only a part. Granite submits that our treatment of such cases as having interference-free service leads to inflated estimates for the area and population served by a station. KPDX requests that we address this issue in our application of the Longley-Rice method and consider whether alternative propagation models should be used in making interference calculations involving mountainous areas.

180. H&E requests confirmation that interference studies for possible facilities modifications should be performed with "interference" and "interference-free" retaining their definitions acquired during the replication and allotment process, that is, any Longley-Rice study cell that returns an error message is: 1) presumed to have service, 2) not studied for interference from other stations, and 3) presumed not to cause interference to other stations.

181. Decision. The methodology for calculating service and interference, including the use of the Longley-Rice propagation model and the presumption of service, was developed by our Advisory Committee. We note that this was a public process and that the development of this methodology underwent considerable debate. In their deliberations, the Advisory

Committee considered and rejected a number of alternative propagation models, including the TIREM model. While we recognize that the Longley-Rice model may have certain limitations, as do all propagation models, we continue to believe that it provides a sufficiently accurate measure of service and interference. Furthermore, the Longley-Rice model is in the public domain and has been extensively documented, thereby ensuring that all parties using this model will be able to achieve the same results. We further note that other models, such as TIREM, are proprietary and can yield very different results depending upon their implementation. Accordingly, we are reaffirming our decision to use the Longley-Rice model.

182. With regard to the petitioners' concerns regarding the treatment of out-of-range calculations, we believe that the assumption of service is appropriate where the Longley-Rice propagation model indicates that service calculations are unreliable. We note that we generally assume service is available within the Grade B contour and since only cells within the Grade B contour are investigated, a presumption of service would appear to be reasonable in such cases. We also confirm that H&E's interpretation on how such cells are to be evaluated in the case of an error message is correct.

(9) Power Adjustments/Donut Interference

183. Hearst Corporation (Hearst), Rainbow Broadcasting, Inc. (Rainbow), and Sarkes Tarzian, Inc. (STI) request relaxation of Section 73.623(c)(2) regarding interference caused by changes in initial DTV allotment facilities that produce a "donut hole" shaped interference pattern within the service area of an NTSC station. These parties indicate that this problem is most likely to arise where a DTV transmitter is located within the service area of an NTSC station-- the donut hole interference pattern occurs in the immediate area around the DTV transmitter. Hearst notes that under the rules, changes in the location and power of DTV stations must be agreed to by any affected NTSC stations. It states that such approval in cases where an increase in donut hole interference would occur is highly unlikely since an affected station will be in direct competition for the same viewers. Hearst suggests that Section 73.623(c)(2) be modified so to allow some nominal increase, for example, no more than 25 percent increase in donut hole interference surrounding the DTV transmitter. It states that this change would better facilitate DTV power adjustments and prevent competitive activity from delaying DTV implementation. Rainbow also requests that Section 73.623(c)(2) of the rules be made more flexible to allow for increased interference in situations involving donut-hole interference. STI suggests that Section 73.623(c)(2) be modified so that no reduction in height/power will be required in cases involving donut hole interference, even where a station licensee proposes to modify its DTV transmitter site beyond the 3-mile zone, so long as the new transmitter site remains within the interference-free contour of the other station both before and after the site relocation.

184. Decision. We believe that this matter has been addressed by our adoption of a 2 percent *de minimis* interference standard. This will permit DTV stations that may cause donut hole or blanketing interference to an NTSC station some flexibility to increase their facilities or

modify the location of their transmitter. At the same time, it will ensure that any new interference is small enough, *i.e.* less than 2 percent, so that the NTSC operation is not significantly affected. We therefore believe that our *de minimis* standard sufficiently addresses the concerns of Hearst, Rainbow and STI regarding this issue.

(10) Typographical Error

185. H&E and KPDX observe that Section 73.623(c)(2) of the rules specifies a threshold D/U ratio of -34 dB for DTV channels operating seven channels above an NTSC facility, while Appendix A of the Sixth Report and Order specifies -43 dB for this taboo and the DTV allotment computer program applied -43.22 dB. They state that it appears that -43 dB should have been specified in Section 73.623(c)(2) and request correction or clarification.

186. Decision. We are correcting Section 73.623(c)(2) to specify a threshold D/U ratio of -43 dB for DTV channels operating seven channels above an NTSC facility.

IV. REQUESTS FOR MODIFICATION OF INITIAL ALLOTMENTS

A. General Treatment of Allotment Change Requests

187. In addition to the general policy matters discussed above, a number of parties submitted petitions for reconsideration concerning specific changes to the DTV Table or to individual DTV allotments.¹⁰⁷ These petitions concern, among other things, requests for DTV channel changes to improve service replication, increase coverage, reduce perceived interference situations, or eliminate impact on low power operations. Throughout this proceeding, we have stated that we intend to provide broadcasters with the flexibility to develop alternative allotment approaches and plans.¹⁰⁸ We specifically stated that we would consider alternative allotment/assignment plans that are the result of negotiations and coordination among broadcasters and other parties within their communities. Therefore, as a general matter in considering these specific requests, we will make changes to the DTV Table where such changes have the agreement of all affected broadcasters or do not result in additional interference to other stations or allotments, and do not conflict with our other DTV allotment goals, such as full accommodation and spectrum recovery. On the other hand, we are generally denying requests by parties to change the DTV allotments of stations licensed to other parties where such parties have not agreed to the proposed change.

¹⁰⁷ In a number of instances, petitioners addressed both general matters and specific requests concerning the DTV Table of Allotments. This section deals only with such specific changes to the DTV Table; all general aspects of the petitions for reconsideration are addressed above.

¹⁰⁸ See, for example, Sixth Report and Order at para. 172.

188. As described above, we have used the software developed by CBA to modify certain DTV allotments to avoid a co-channel conflicts with low power stations in a limited number of situations. Beyond these adjustments, we are not generally granting requests by low power interests to modify the DTV allotments of full power stations in order to protect their existing operations, except where such changes are agreed to by all affected broadcasters. We have provided a number of rule changes for low power stations to minimize the impact of DTV on their operations and to provide them with additional flexibility to find replacement channels when necessary. At the same time, low power stations remain secondary to both the analog and digital operations of full service broadcasters. Therefore, requests by low power interests that we modify the DTV Table to protect their existing low power operations will generally be denied unless the petitioners have obtained the concurrence of the full service licensee to the change and the change would comport with our other allotment principles and policies.

189. A number of petitioners request modification of their channel allotments and/or assigned power or antenna height to expand or maximize the DTV service of their stations beyond that their existing service areas. In addition, a number of petitioners requests that we modify their DTV allotments to take into account recent or pending requests to modify their NTSC facilities. To the extent feasible, the DTV Table provides for service replication of all station parameters including any modifications granted as of the date of adoption of the DTV Table, *i.e.*, April 3, 1997. As discussed above, we are not providing for maximization of DTV station facilities at this time. We believe that to do so as a matter of reconsideration would be inappropriate. We have adopted specific provisions in our rules to allow licensees to request an increase in their DTV facilities and believe that to consider maximization requests as part of reconsideration would unfairly disadvantage parties that have expected such maximization requests to be dealt with under the rules. Likewise, we also do not believe that it is appropriate to attempt to increase DTV facilities to match requests for NTSC facility increases that are pending or have been granted after April 3, 1997. Accordingly, we are generally denying petitioners' requests for DTV channel and facility changes solely for the purpose of increasing DTV service areas beyond that provided in the Sixth Report and Order or to replicate their existing facilities as of April 3, 1997. These parties may submit separate requests for increased power and/or antenna height under the procedures for maximization of DTV facilities contained in the Commission's rules.

190. In the Sixth Report and Order, we adopted a policy to base DTV allotments on current transmitter sites, rather than on community reference coordinates. We also provided broadcasters flexibility to locate their transmitting facilities at any site within a three-mile radius of their existing antenna site coordinates. We further stated that we would allow stations to relocate to other locations or co-locate their facilities with other broadcasters where such relocations and co-locations would not increase interference.¹⁰⁹ As indicated above, we have affirmed these policies to give broadcasters flexibility in finding new transmitter sites where

¹⁰⁹ See Sixth Report and Order at para. 102.

necessary and to encourage co-location of DTV facilities. As is the case with requests to increase power, we generally believe that requests to change transmitter sites should be dealt with through the DTV allotment modification procedures provided for in the rules and not as a matter for reconsideration. Accordingly, we are generally not granting such requests by petitioners.

191. Certain petitioners question the adequacy of the DTV channels allocated to their stations but do not request the use of specific alternative channels or supply any information to show that the DTV channels provided to their stations do not comport with our DTV allotment principles and goals. In general, we are declining to grant such requests. We are also, in general, denying requests to change DTV allotments based solely on the fact that the licensee received a DTV allotment out of the core spectrum. In developing the DTV Table of Allotments, we attempted to provide all eligible broadcasters with an initial DTV allotment within channels 2 to 51.¹¹⁰ However, this was not always possible because of the limited availability of spectrum and the need to accommodate and replicate all existing facilities with minimal interference. We recognized that this approach would require certain broadcasters to make a second transition to a new DTV channel within the core spectrum and have attempted to minimize the number of times such a second transition would be necessary. In this regard, we specifically did not adopt approaches suggested by other broadcast interests, such as MSTV, that would have significantly increased the number of out-of-core DTV allotments. To facilitate second channel transitions, we stated that we will allow broadcasters with DTV channels out of the core spectrum to switch their DTV service to their existing in-core NTSC channels at the end of the transition if they so desire. We also stated that stations with both NTSC and DTV channels outside the core spectrum would be assigned new channels within the core from recovered NTSC spectrum. We noted that the DTV Table contains only 68 instances where both channels are outside of channels 7-51 and 89 instances where both channels are outside of channels 2-46. We find that, in considering changes in the DTV allotments, including changes to eliminate out-of-core channels, the interests of service replication and minimizing interference generally outweigh other station considerations, such as network affiliation, commercial, or noncommercial operation, station or market size, etc. Finally, we believe that the out-of-core problem is reduced by our decision to expand the core spectrum at this time to include all channels from 2-51.

192. Below, we summarize and respond to petitions seeking specific changes in the DTV Table of Allotments. We have arranged many of these summaries and responses into groups.

B. Petitions Granted or Made Moot

193. In this subsection, we discuss petitions that advocate changes to the DTV Table of Allotments that have been made in this reconsideration order. These petitions include requests for specific changes to the DTV Table that we have granted, in whole or in part, along with

¹¹⁰ Our allotment software includes a penalty for the use of out-of-core DTV allotments, and such channels were used only where benefits of their use would outweigh the penalties for interference and service replication.