FCC 96-317

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

In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact upon the	)	MM Docket No. 87-268
Existing Television Broadcast	)	
Service	)	

Sixth Further Notice Of Proposed Rule Making

Adopted: July 25, 1996 ; Released August 14, 1996

Comment Date: November 22, 1996
Reply Comment Date: December 23, 1996

By the Commission: Chairman Hundt issuing a statement.

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I. INTRODUCTION

1. By this action, the Commission begins the final step in the implementation of the next era of broadcast television: digital television (DTV).[1] Recently, we considered the issue of a DTV broadcast standard.[2] Earlier, we adopted a Notice addressing the manner in which digital licensees may use the spectrum identified for digital broadcasting, and other issues.[3] In this action, we continue the implementation process by proposing policies for developing the initial DTV allotments, procedures for assigning DTV frequencies,[4] and plans for spectrum recovery.

2. We also propose technical criteria for the allotment of additional DTV frequencies and provide a draft DTV Table of Allotments. The Table, which shows how initial digital frequencies might be allotted and assigned in individual markets, is based on the principles of accommodating all eligible existing broadcasters, replicating existing service areas, and ensuring sound spectrum management. While we expect our final Table of Allotments to be based on these principles, the Table we issue today is a draft and we anticipate revisions. Our staff will work with broadcasters and other parties to revise the Table as appropriate. We have also proposed procedures by which broadcasters within a community can request alternative allotments for their market, both before and after adoption of a Table.

3. Our overarching goals in this phase of the proceeding are to ensure that the spectrum is used efficiently and effectively through reliance on market forces and to ensure that the introduction of digital TV fully serves the public interest. In this latter regard, our proposals will serve to foster the competitive provision of new and innovative DTV services and to promote economic growth and the creation of jobs in the telecommunications industry.

II. BACKGROUND AND SUMMARY

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[1] Digital TV refers to any technology that uses digital techniques to provide advanced television services such as high definition TV (HDTV), multiple standard definition TV (SDTV) and other advanced features and services.

[2] See Fifth Further Notice of Proposed Rule Making, adopted May 9, 1996, FCC 96-207 (released May 20, 1996); see also Advanced Television Systems Committee Standard A/53 (1995) ATSC Digital Television Standard (ATSC DTV Standard).

[3] See Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry (Fourth Further Notice), 10 FCC 10541 (1995).

[4] As used herein, the terms "frequency" or "channel" generally refers to the 6 MHz spectrum block currently used to provide a single NTSC television service or to the equivalent 6 MHz spectrum block to be used for DTV services. In each case, the NTSC and DTV channel numbers used herein correspond to the same frequency bands. For example, NTSC channel 2 and DTV channel 2 both correspond to the frequency band 54-60 MHz. It should be noted, however, that whereas an NTSC frequency or channel is used to provide a single television program service, DTV frequencies or channels may be used to provide a wide variety of services, such as HDTV, multiple SDTV programs, audio, data and other types of communications.

4. On July 16, 1992, the Commission adopted a Second Further Notice of Proposed Rule Making that addressed issues relating to the development of channel allotments for DTV service. In that action, we presented proposals for the policies, procedures and technical criteria to be used in allotting and assigning channels for DTV service. Included in this action was a "draft" proposal for a DTV Table of Allotments.

5. On July 28, 1995, we adopted a Fourth Further Notice of Proposed Rule Making and Third Further Notice of Inquiry (Fourth Further Notice) that revisited a number of policy issues in response to technical and system developments with regard to digital broadcast television technology.[5] We noted that digital encoding and transmission technology permits the transmission of multiple standard definition television (SDTV) programming, data and other services in addition to high definition television (HDTV) service.[6] With regard to spectrum issues, we restated our commitment to recovery of spectrum. We stated that the temporary grant of an additional 6 MHz channel for digital broadcasting would be conditioned explicitly on, among other things, return of one of the channels at the end of a transition period. We further stated that we may require broadcasters to change their channels at the end of the transition period, so that recovered spectrum can be aggregated into contiguous blocks, thereby increasing its value. We also indicated that we intended to issue another Further Notice proposing a DTV Table of Allotments and channel assignment methodology.[7]

6. We adopted a Fifth Further Notice to consider the issue of a DTV broadcast technical standard on May 9, 1996. We proposed to require that DTV licensees use the ATSC DTV Standard recommended by our Advisory Committee on Advanced Television Service (Advisory Committee) as the transmission system for digital broadcast television.[8] To ensure that our rules encourage future innovation, we also proposed to do one or more of the following: 1) proceed under our current processes, which include consideration of requests to amend our rules when the Commission, industry, or other members of the public believe change warranted; 2) provide for reviewing the standard at some future time; or, 3) adopt a sunset provision making the standard optional after an established period of time. We also sought comment on alternatives to requiring use of the ATSC DTV Standard, including the possibility of mandating only certain portions of the standard, or simply authorizing use of the ATSC DTV Standard and protecting it against interference.

7. In this action, we consider policies, procedures and technical criteria to be used in allotting and assigning channels for digital TV service. The DTV Table on which we are

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[5] See Fourth Further Notice, at paras. 3-19.

[6] Id. at para. 4.

[7] Id. at para 19.

[8] See Final Report and Recommendation of the Advisory Committee on Advanced Television Service, adopted November 28, 1995. Copies of this report are available through the Commission's copy contractor, International Transcription Services. Additionally, the Advisory Committee's Report and the ATSC DTV Standard are available on the Internet at the ATSC site (http://www.atsc.org).

seeking comment is based on the principles of full accommodation for all eligible existing broadcasters, replication of existing broadcast service areas, and sound spectrum management, and it uses the technical and interference characteristics of the ATSC DTV Standard. We proceed with this Further Notice on the assumption that 6 MHz channels will be assigned to existing broadcasters, and that there will be a transition period after which broadcasters will return one of their two 6 MHz channels.[9] We do not address in this Further Notice the issue of whether digital licenses should be assigned through competitive bidding, which is beyond our statutory authority.[10]

III. ALLOTMENT AND ASSIGNMENT PRINCIPLES

8. The development of a proposed new Table of Allotments for digital TV broadcasting is a complex and difficult task. Over 1900 new DTV allotments must be identified to serve the almost 1000 TV markets and communities throughout the United States. Sophisticated, state-of-the-art computational capabilities are required to perform the complicated task of creating these new allotments and calculating the anticipated coverage and interference effects of the proposed new DTV frequencies. Comprehensive engineering and technical analyses must be performed to study the potential for recovery of spectrum. The principles and policies that have resulted in our DTV allotment proposals are discussed fully below. We request comment on all aspects of the principles and assumptions underlying the attached draft DTV Table.

A. Full Accommodation

9. In the Second Further Notice issued in 1992, we proposed that our primary allotment objective would be to accommodate all eligible existing broadcasters with a second channel for DTV service.[11] We had previously indicated that eligible broadcasters would include: a) all full-service television broadcast station licensees; b) permittees authorized as of October 24, 1991; and c) all parties with applications for a construction permit on file as of October 24, 1991, who are ultimately awarded full-service broadcast station licenses.[12] In the

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[9] The issue of the appropriate duration of a transition period from NTSC to DTV service is not a subject of this Further Notice; that issue is being addressed in the context of the Fourth Further Notice.

[10] In the Fourth Further Notice, we explained that our auction authority under 47 U.S.C. Section 309(j) does not include the authority to auction digital broadcast licenses. See Fourth Further Notice, at para. 31.

[11] See Second Further Notice of Proposed Rule Making (Second Further Notice), 7 FCC Rcd 5376 (1992), at paras. 9-10.

[12] See Second Report and Order/Further Notice of Proposed Rule Making (Second Report/Further Notice), 7 FCC Rcd 3340 (1992), at para. 9. Subsequently, in the Memorandum Opinion and Order/Third Report and Order/Third Further Notice of Proposed Rule Making, the Commission clarified that, in the event of a shortfall of allotments, eligible parties would be ranked in the following order: 1) licensees and permittees with constructed

Fourth Further Notice, we reiterated our 1992 decision that initial eligibility for DTV frequencies should be limited to existing broadcasters.[13] The recently enacted 1996 Telecommunications Act provides that if we decide to issue additional licenses for advanced television services, we should limit the initial eligibility for such licenses to persons that, as of the date of such issuance, are licensed to operate a television broadcast station or hold a permit to construct such a station.[14]

10. Proposal. Consistent with the above, we propose that our primary allotment objective continue to be to develop an allotment approach that will accommodate all eligible existing broadcasters. Subject to any changes resulting from our Fourth Further Notice, existing broadcasters eligible for a DTV channel will include those broadcasters we have previously identified: a) all full-service television broadcast station licensees; b) permittees authorized as of October 24, 1991; and c) all parties with applications for a construction permit on file as of October 24, 1991, who are ultimately awarded full-service broadcast station licenses. This approach will ensure that all eligible full service broadcasters are able to provide the new digital TV service. Our proposals herein regarding full accommodation are also consistent with the provisions of the 1996 Telecommunications Act regarding initial eligibility for licenses. As described below, we are also proposing procedures for creating additional allotments beyond those needed initially for accommodating all existing full service broadcasters.

B. Digital TV Service Areas

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facilities having program test authority; 2) other permittees; and 3) all parties with an application for a construction permit pending as of October 24, 1991. See Memorandum Opinion and Order/Third Report and Order/Third Further Notice of Proposed Rule Making (Third Report/Further Notice), 7 FCC Rcd 6924 (1992), at paragraph 10. In the Fourth Further Notice, we further stated that in the event that we were not able to accommodate all eligible existing broadcasters with an DTV channel, there are other options, such as switching directly to DTV service at some point during or at the end of the transition period. See Fourth Further Notice, at footnote 24. As discussed herein, we now believe that it will be possible to accommodate all eligible broadcasters with a DTV channel. If, however, we ultimately adopt a different allotment approach, we continue to propose to employ the ranking procedure and options set forth in the Third Report/Further Notice and Fourth Further Notice.

[13] We also asked for comment on the eligibility status of those broadcasters who are in bankruptcy, off-the-air, have construction permits or are otherwise non-operational, or are otherwise incapable of engaging in the transition to digital television. In particular, we have requested comment on whether the transition channels identified for these parties would be better used to support service to the public if they were instead made available to new entrants.

[14] Section 201 of the Telecommunications Act of 1996 provides, inter alia, that "[i]f the Commission determines to issue additional licenses for advanced television services, the Commission ... should limit the initial eligibility for such licenses to persons that, as of the date of such issuance, are licensed to operate a television broadcast station or hold a permit to construct such a station." Telecommunications Act of 1996, Pub. l. No. 104-1-4,, Section 201, 110 Stat. 56 (1996).

11. In the Second Further Notice, we proposed to employ an allotment approach that would maximize the service areas of all DTV allotments.[15] We also stated that it is important to enable DTV stations to serve geographic areas that encompass their communities of license and surrounding market areas. We indicated that we intended to establish a minimum DTV service area objective and stated that, at a minimum, DTV stations should have the capability to provide service to an area within a radius of 85-90 km (about 55 miles) of their transmitter sites.[16] Under this approach, frequencies would be assigned to broadcasters in a community either through a negotiation process or on a first-come, first-served basis.[17]

12. We also requested comment on a "service replication/maximization" concept suggested by a variety of broadcast industry interests and representatives.[18] Under this approach, in the allotment process, we would attempt to provide DTV coverage areas comparable to existing NTSC coverage areas, taking each station's actual facilities and interference into account. We would also attempt, where possible, to provide smaller NTSC stations with larger DTV coverage areas, up to the size of the coverage area of the largest station in their market. Consistent with the comparable coverage objective, using the service replication approach we would match DTV frequencies with existing NTSC frequencies to create channel pairings/assignments. The goal of this approach would be two-fold: 1) to provide DTV coverage comparable to a station's entire current coverage area and, 2) to provide the best correspondence between the size and shape of the proposed DTV channel's coverage area and the station's existing coverage.

13. Proposal. In reviewing this issue, we agree with those in the broadcasting industry who have argued that replication of existing service areas in the new DTV allotments offers important benefits for both viewers and stations.[19] Replication would generally maintain the service areas of existing NTSC stations, thereby preserving viewers' access to off-the-air TV service and the ability of stations to reach the audiences that they now serve.[20] Accordingly,

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[15] See Second Further Notice, at paras. 11-16.

[16] The service distances typical of existing NTSC stations range from about 85-105 km (55-65 miles). Some stations, however, have a service distance as short as 30 km (20 miles) and others have a service distance as long as 125 km (80 miles).

[17] See Second Report/Further Notice, at para. 35.

[18] For example, this approach was suggested by the Commission's Advisory Committee on Advanced Television Service (Advisory Committee), the Broadcast Caucus, the Association of Maximum Service Television, Inc. (MSTV), the National Association of Broadcasters (NAB) and others.

[19] See for example, "Broadcasters' Proposed ATV Allotment/Assignment Approach," submitted in MM Docket No. 87-268 on January 13, 1995, by approximately 90 broadcast organizations and companies, including the Association for Maximum Service Television, Inc., the National Broadcasters Association and other trade associations, commercial and public television networks, group station owners and individual station licensees.

we are proposing to identify digital TV allotments that, to the extent possible, will allow all existing broadcasters to provide digital TV service to a geographic area that is comparable to their existing NTSC service area.[21] In this regard, we also propose to specify for each DTV allotment a maximum permissible effective radiated power (ERP) and antenna height above average terrain (HAAT) that would, to the extent possible, provide for replication of the station's existing service area. Furthermore, as discussed below, we are proposing to allow stations to maximize or increase their service area where such an increase would not create additional interference.[22]

14. We request comment on all aspects of our proposal to use the service replication plan in allotting and assigning initial channels for digital TV service. We also request comment on whether it might be more desirable instead to adopt our original plan to allot DTV channels using an approach that maximizes the service areas of all DTV stations. This approach would tend to equalize the coverage areas of all stations within a market and reduce the current disparities among stations. We request comment on whether our original approach would be more appropriate and would provide more incentives for broadcasters to implement digital service more quickly than the service replication approach.

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[20] Like our service maximization methodology, the service replication/maximization plan offers the means to achieve a spectrum efficient DTV Table of Allotments. The service replication/maximization methodology is a technically-based approach that employs highly accurate modeling and assignment analysis techniques developed by MSTV and the Broadcast Caucus and optimization technologies developed by FCC staff to best accommodate all existing stations in the limited spectrum available. In assigning DTV channels, the computer software used with this method provides a neutral solution, in that it does not distinguish among types of stations, e.g., network affiliates, independent stations or noncommercial educational stations.

[21] The methodology used to calculate NTSC service area is based on studies and methodologies developed by industry and our Advisory Committee. See Final Report and Recommendation of the Advisory Committee on Advanced Television Service.

[22] Stations would be permitted to increase their power and antenna height up to that permitted for maximum facilities, as discussed below in Section IX.

C. Spectrum for DTV

15. In the Second Report/Further Notice, we set forth a plan for implementing DTV service. As part of that plan, we proposed to provide broadcasters with the temporary use of a second channel for DTV operations, and we emphasized that at the end of the transition period we would reclaim one of the two channels.[23] In the Second Further Notice, we proposed to locate all DTV allotments in the UHF band.[24] We indicated that locating all DTV allotments in a single band would help reduce the cost of DTV receiving equipment and reduce technical disparities between stations. We also stated that allotting DTV channels only to UHF frequencies would leave the VHF band vacant after the transition to DTV is completed and would make this band available for new radio services.

16. In the Fourth Further Notice, we stated that we remain committed to spectrum efficiency and to the recovery of spectrum.[25] We noted that over 400 MHz of spectrum in the VHF and UHF bands is currently allocated for television broadcasting.[26] We indicated that while the NTSC system does not permit all of the TV channels designated in this spectrum to be used in the same geographic area, the ATSC DTV system does not appear to pose the same limitations on spectrum use. Accordingly, we stated that as part of our long term plans to promote efficient use of the spectrum, we are considering reducing the amount of spectrum allocated to television broadcasting, but without reducing the number of licensees.[27] In particular, we stated that by moving some digital broadcast stations to new frequencies upon cessation of NTSC service, we would be able to condense broadcasting assignments to significantly less than 400 MHz, facilitate spectrum recovery in contiguous blocks and thereby achieve a more spectrum-efficient arrangement. Finally, we questioned our previous view that the UHF band is the part of the spectrum to which all television broadcasting should be moved and sought comment on which parts of the VHF and UHF bands are most highly valued for digital broadcast use.[28]

17. We also noted in the Fourth Further Notice that we had not made any decisions concerning which of the two channels would eventually be surrendered.[29] We stated that to minimize the number of digital broadcast stations that may need to be moved to facilitate the

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[23] See Second Report/Further Notice, at para. 50.

[24] See Second Further Notice, at paras. 17 and 18.

[25] See Fourth Further Notice, at para. 58.

[26] Id. We note that the technical characteristics of the existing NTSC broadcast system allow use of only 102 MHz of spectrum at any given location. See Notice of Inquiry in MM Docket No. 87-268, 2 FCC Rcd 5125 (1987).

[27] See Fourth Further Notice, at paras. 57-60 and 86-87.

[28] Id., at para. 86.

[29] See Fourth Further Notice, at para. 59.

creation of large contiguous blocks of VHF and/or UHF spectrum, it will likely be necessary for the Commission, not the licensee, to determine which 6 MHz channel the broadcaster must use for digital transmission and which must be surrendered.[30] We also indicated that by making these decisions early we can aid broadcasters in their investment decisions.[31]

18. Proposals. The primary goal of this proceeding is to ensure that the implementation of the DTV service is accomplished in a manner that serves the public interest. To achieve this goal, we believe that it is important to provide the new digital stations with the spectrum that is the most appropriate and technically suitable for their operation. In addition, given our obligation to manage the spectrum efficiently in the public interest and the increased number of stations that the TV spectrum can accommodate, we believe it is important that the recovery of spectrum continue to be a key component of our implementation of DTV service. In this regard, we remain committed to the recovery of the channels temporarily assigned for the transition and to ensuring that the spectrum is used efficiently.

19. *DTV Core Spectrum Option.* In revisiting the issue of the location of DTV allotments, we agree with broadcasters who have argued against a UHF-only plan. We now believe that an approach that uses portions of both the VHF and UHF TV spectrum would better serve the public interest. Based on studies by our staff in developing DTV allotments, we believe that a core region of 270 MHz between channels 7 and 51 may be the most appropriate location for DTV broadcasting; that it would be sufficient to accommodate all existing broadcasters; and that it would provide additional DTV frequencies for new entrants after the conversion to digital service. From a technical perspective, we believe that this spectrum is the most desirable for broadcasting. In this regard, we observe that signals in the lower VHF spectrum are more susceptible to degradation due to man-made and atmospheric noise, while those in the upper UHF spectrum suffer greater propagation losses and are more susceptible to multipath and shadowing effects.

20. We therefore are considering a revised spectrum option under which all future digital TV service would be located in a core region of the existing VHF and UHF broadcast spectrum, namely the spectrum at VHF channels 7 to 13 (174-216 MHz), and the spectrum at

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[30] Id.

[31] Id.

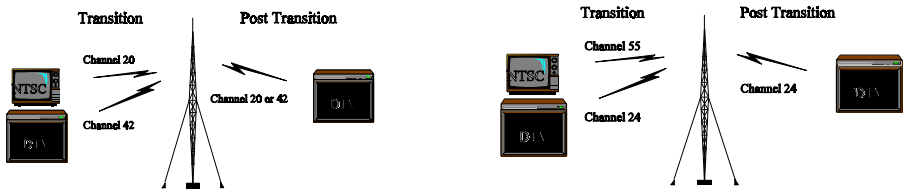
UHF channels 14-51 (470-698 MHz).[32] Figures 1 and 2 below show the existing NTSC television channels and the proposed spectrum to be used for digital television:

Figure 1 - Current NTSC TV Channels

Figure 2 - Proposed DTV Spectrum (Shaded Areas)

21. Under this spectrum plan, we would attempt to provide all existing broadcasters with access to a 6 MHz channel for digital broadcasting within the core digital TV spectrum, i.e., channels 7 to 51. Because of the limited availability of spectrum and the need to accommodate all existing facilities with minimal interference among stations, however, some broadcasters would be provided transition DTV channels outside of this area. These broadcasters would have to move their DTV operations to a channel in the core spectrum when one became available. Broadcasters whose existing NTSC channels are in the core spectrum could move their DTV operations to their NTSC channel at some time in the future. Broadcasters whose DTV transition channel and existing NTSC channel are both outside of the core area could obtain a new DTV channel when channels in the core spectrum are recovered.

22. The following illustrates how a broadcaster assigned a new DTV channel in the core spectrum could make the transition:



[32] These bands correspond to the existing TV channels between VHF channel 7 and UHF channel 51. TV channel 37 (608-614 MHz) is currently used for radio astronomy research. In order to protect sensitive radio astronomy operations, TV Channel 37 currently is not used for NTSC broadcast television and also would not be used for DTV service.

In the example on the left, a broadcaster operating on channel 20, in the core DTV spectrum, is provided DTV channel 42, also in the core spectrum. After the transition, this broadcaster could choose either to continue to operate his DTV service on channel 42 or to switch his DTV operations to his existing NTSC channel 20. Whichever channel is not used for DTV would be reclaimed and could become available for other DTV operations. In the example on the right, a broadcaster operating on channel 55, outside of the core DTV spectrum, would be provided with DTV channel 24, inside the core spectrum. After the transition, channel 55 would be recovered.

23. Alternatively, the following illustrates how a broadcaster assigned a DTV channel outside the core spectrum could make the transition:

In the example on the left, a broadcaster operating on channel 21, which is in the core DTV spectrum, is provided a "temporary DTV" channel 52 outside the core DTV spectrum. After the transition, this broadcaster would have to move his channel 52 DTV operation to channel 21. In the example on the right, a broadcaster operating on channel 56, which is outside of the core DTV spectrum, would be provided with "temporary DTV" channel 54 also outside the core spectrum. After the transition, this broadcaster would be required to move to a new DTV channel within the core spectrum, e.g., channel 20 from our first example above, which would be made available through release of an NTSC channel.

24. We believe that this option provides broadcasters with a sound plan for the implementation of DTV. By attempting to provide all broadcasters a "core" DTV channel, this option would provide the vast majority of broadcasters with the capability to provide DTV service on a channel that is technically most suited for DTV operation. For 90 percent of stations, broadcasters, if they desired, would be able to provide DTV services on the same channel both during and after the transition. This will allow the greatest number of broadcasters to establish early and permanent channel identification with viewers and will minimize the expense and confusion associated with second channel transitions.[33]

25. Another benefit of this option is that it would allow the spectrum outside the core region to be recovered without a repacking that would force many broadcasters to move to new channels twice. Specifically, this option would permit the eventual recovery of 138 MHz of spectrum nationwide. This spectrum would be obtained from the lower VHF channels, i.e., channels 2-6 (54-72 MHz and 76-88 MHz), and upper UHF channels, i.e., 52-69 (698-806 MHz). In addition, this option may facilitate the early recovery of a portion of this spectrum. For example, it may be possible to recover 60 MHz of spectrum almost immediately from the band 746-806 MHz, i.e., UHF channels 60-69, while protecting the relatively few full-service analog and digital broadcasters in that spectrum. In this regard, we note that only 97 of the almost 1600 television licensees operate on channels 60-69. And in the attached Table of Allotments we have attempted to minimize the number of DTV channels that would be located on channels 60-69.[34] Thus, a benefit of this approach is that substantial amounts of spectrum could rapidly be made available.

26. While we are not, in this proceeding, deciding that this spectrum be reallocated, we note that there are other uses for this spectrum. For example, this spectrum could be licensed through competitive bidding for flexible mobile operations; a portion of it could be used to meet public safety needs; and/or a portion could be designated temporarily or permanently for LPTV and TV translator stations. If such an early recovery were to occur, we would initiate a separate allocation proceeding to decide how this spectrum should be used. In addition, we would allow broadcasters using channels 60-69, both NTSC and DTV, to continue to use those channels as long as broadcasters beneath channel 60 were permitted to retain two channels and we would protect them from interference by new licensees. We also may consider requiring the new licensees to compensate broadcasters for the cost of relocating to DTV channels in the core spectrum area. (This compensation, we anticipate, could also be available to broadcasters at channels 52-59 and 2-6 at a later date.) Thus this approach would minimize the impact of the spectrum recovery process on broadcasters and viewers as compared to an approach that involved the "repacking" of many broadcast stations.

27. The attached draft Table of Allotments is based on a "core spectrum" approach that minimizes -- but that does not eliminate -- digital allotments at channels 60-69. Where

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[33] In only about 1 percent of the cases will a station not have at least one channel, either DTV or NTSC (that could later be switched to DTV), within the core during the transition.

[34] There are a number of LPTV and TV translator stations that operate on a secondary basis on these channels. See Low Power and TV Translator discussion below.

necessary to avoid undesirable interference, the draft Table uses channels 60-69. The draft table does so roughly 30 times. We believe that this approach meets our goals of implementing digital television in the public interest and that it is consistent with our obligations with respect to sound spectrum management.

28. *Alternative Spectrum Option*. On January 13, 1995, the Association of Maximum Service Television, Inc. (MSTV), on behalf of parties within the broadcast industry, filed recommendations for the allotment/assignment of channels for DTV service.[35] The MSTV filing also includes a preliminary DTV Table of Allotments and Assignments. The MSTV Table is based on principles that are similar to those we are proposing herein. The MSTV Table is based on full accommodation of all broadcasters. It also attempts to provide DTV coverage that is comparable to the coverage of existing NTSC coverage and use service replication or matching to assign DTV channels. The principle difference between the MSTV Table and the Table included herein is with regard to the use of spectrum. While the two approaches use both VHF and UHF channels, the MSTV proposed approach does not attempt to concentrate all DTV operations within a core area of the spectrum.[36]

29. Under this alternative approach, each broadcaster would be provided with a 6 MHz DTV channel without preference to any specific channels. Since all channels would be available, such an approach could theoretically provide for some degree of improved service area replication and interference performance. Such an approach might also have less impact on low power TV and TV translator stations.[37] On the other hand, this option would place more DTV stations on channels that are less desirable for broadcast operations. For example, the MSTV Table includes over 350 allotments on channels 60 and above.[38] In addition, recovery of contiguous spectrum at the end of the transition period would require many stations to change channels a second time. These channel changes could have an independent negative impact on broadcasters and viewers. Further, early recovery of spectrum would be more difficult and therefore less likely.

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[35] See "Broadcasters' Proposed ATV Allotment/Assignment Approach," submitted by MSTV in this proceeding.

[36] The MSTV proposal also contains a number of other differences. One difference, for example, is in the manner in which non-commercial vacant allotments are treated. MSTV did not consider commercial vacant allotments-- it stated that in most cases vacant allotments would have to be eliminated. It did, however, attempt to provide a replacement NTSC and DTV channel for all non-commercial vacant allotments. It was successful in finding a replacement NTSC channel for non-commercial vacant allotments in about two-thirds of all cases. MSTV was also successful in finding a replacement DTV channel in all but one case. The actual channels for these vacant allotments are not shown on the draft Table submitted by MSTV. LPTV and TV translator stations were not considered in the MSTV Table.

[37] We note that the core spectrum option is not inconsistent with reserving some spectrum at channels 60-69 for LPTV or TV translator use during the transition, if on balance it is in the public interest to do so. See discussion below on low power TV and TV translator stations.

[38] This represents over 20 percent of the new DTV allotments.

30. The MSTV preliminary DTV Table of Allotments and Assignments provides information that is useful for comparison of the options discussed herein. It is important to note, however, that the MSTV Table could not be adopted as submitted and is not directly comparable to the Table of Allotments developed by our staff. The MSTV Table is based on a 1992 television station database, while the staff Table is based on our most current database. The MSTV Table does not provide full protection to some Canadian television operations and does not protect land mobile operations on TV channel 20 in Philadelphia. In addition, the MSTV Table is not based on the final DTV system performance values.[39] Even as submitted, however, the MSTV Table is not significantly different from the draft DTV Table included herein.

31. Request for Comments. We request comment on all aspects of our DTV spectrum options. We specifically request comment on the differences between DTV Tables developed under the two options discussed above and how these differences should be viewed in selecting an appropriate spectrum plan. We ask commenters to quantify, to the extent possible, the costs and benefits of each approach. Interested parties are also invited to submit alternative DTV allotment plans that would ensure the implementation of digital television in the public interest. We also invite comment on whether our original proposal for an all-UHF DTV service might be appropriate and better ensure the recovery of spectrum.

32. Studies by our staff indicate that the service area replication and interference differences associated with attempting to locate all DTV operations within a core spectrum area and minimize use of channels 60-69 are small. For example, a nationwide comparison of a table that uses all channels without preference and one that prefers channels within the core area shows only a 1.4% difference in cumulative geographic coverage and 0.7% difference in cumulative population served where additional new interference from DTV operations may occur. These values are based on calculation of coverage and interference using the FCC curves (See 47 CFR Section 73.699). Without a preference for placing digital TV allotments in the core, the cumulative geographic coverage of existing NTSC stations is 97.3% and the cumulative population coverage is 94.6%. With a preference for digital TV allotments in the core, these numbers are 95.9% and 93.9%, respectively.[40] When more precise, terrain-dependent Longley-Rice calculations are used, the "core channel" plan preserves almost 100% NTSC coverage of geography and population -- namely, 99% geographic coverage and 98% population coverage. These are the figures for the NTSC stations in the attached draft Table of Allotments.

33. It is important to place these numbers in context. Where interference occurs, it does so along the edges of a station's Grade B service area where signal reception is generally weaker and cable penetration is generally higher. In most instances, over-the-air viewers would not experience a loss of the channel in question, but rather they would experience some

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[39] For example, the final DTV system values indicate that an additional 5 dB of protection is required for NTSC from upper adjacent channel DTV operations.

[40] Hence, the differences of 1.4% (geography) and 0.7% (population between the two approaches).

degradation in picture quality. Depending on the height and quality of their antenna, many of these viewers would notice no difference at all. Finally, these interference numbers assume that each new digital television licensee broadcasts at full authorized power. Anticipated interference will be reduced to the extent that licensees do not transmit digital signals at their full authorized power. We note that a number of digital allotments will go to licensees that do not now have functional television stations, or stations operating at full power, but rather to licensees that, prior to 1991, received construction permits to build or modify NTSC stations but have not yet done so. It may be some time before these licensees not only build or modify their NTSC facilities, but also erect new digital transmitters. In addition, some digital licensees may agree temporarily to reduce the power of their digital signals to avoid interference to analog signals. We propose to permit such agreements, including those that involve compensation. In addition, in some cases interference to NTSC stations can be minimized or eliminated by increasing the transmitter power or antenna height of the affected NTSC station. We propose to permit such changes provided that they do not cause more than *de minimus* interference to neighboring DTV operations, and we propose to permit agreements including compensation under which a DTV licensee would temporarily agree to accept a slightly elevated level of interference so that reception of an NTSC station is improved.

34. We request comment on our staff's assessment with regard to the two spectrum options. Commenting parties are invited to provide their own assessments of the differences in the two options. Such assessments should be based, to the extent possible, on concrete engineering and other data. It should address all factors, including any differences at both the nationwide and individual station levels. Cementers may address whether the different plans have different effects on the potential competitiveness of segments of the broadcasting industry such as the emerging networks. We also seek comment on whether such differences warrant selection of one approach over the other. Finally, we request comments on the costs and benefits of different plans with respect to LPTV and TV translator stations.

35. We also request comment on specific issues relating to the "core area" option. We ask that comments address whether our proposed choice of the spectrum for the core area is appropriate and whether there are any other considerations relating to this choice that should be addressed. In particular, we request comment on our tentative conclusion that the upper UHF frequencies are less desirable for broadcasting purposes and more appropriate for other uses. Similarly, we request comment on our assessment that VHF channels 2-6 are less suitable for broadcasting because of high levels of noise. Parties addressing this issue are requested to provide specific information and engineering analysis on whether the longer range propagation characteristics of channels 2-6 outweigh the disadvantage of higher levels of atmospheric and man-made noise on these frequencies with regard to digital signals.

36. We further request comment on what mechanisms and criteria we should use to determine the channel that will become the permanent DTV spectrum for each existing station. We tentatively propose to allow broadcasters with both NTSC and DTV frequencies in the core DTV spectrum to choose one of those channels for their permanent DTV spectrum. Under this plan, broadcasters would be required to make their spectrum choices within a specific period of time, e.g., three to five years, after the implementation of DTV service begins. Once these choices were made, the Commission would identify new DTV allotments

that would be available for relocation of stations initially operating on frequencies outside the core area or for new DTV assignments. This would facilitate an orderly transition to DTV service by both broadcasters and viewers, permit the creation of additional DTV allotments and facilitate the accommodation of parties with channels outside of the core area.

37. We further request comment on whether we should adopt special transition provisions for broadcasters with NTSC channels or DTV allotments outside the core area. For example, where such a broadcaster's existing NTSC channel is outside the core should we allow the broadcaster to cease NTSC operation and permit early transition to a DTV channel in the core? In addition, where a broadcaster's existing NTSC channel is in the core and its DTV allotment is outside the core, should we allow the broadcaster to convert its NTSC channel to DTV operation, rather than activate its "temporary" out-of-core DTV allotment. Finally, where a broadcasters' existing NTSC channel and DTV allotment are both outside the core area, should we allow such broadcasters to wait to begin DTV operations until spectrum becomes available in the core area? This would allow some broadcasters to avoid making a second transition to convert to DTV. We specifically ask whether the above special transition approaches should apply to broadcasters with NTSC or DTV frequencies on channels 60-69.[41]

D. Allotment Preference

38. In the Second Further Notice, we proposed, as our final objective, to give a relative preference to new DTV operations over NTSC operations in the allotment process. We noted that in most instances, the choice of channels for a DTV allotment will involve consideration of other nearby DTV allotments and existing NTSC stations. Where a choice must be made between providing greater service area for a new DTV allotment or minimizing interference to an existing NTSC allotment, we proposed to choose in favor of the DTV allotment.

39. Proposal. We now believe that a review of our previous proposal regarding the provision of a preference for new DTV allotments in the development of the DTV Table of Allotments is warranted. We recognize that NTSC operations will continue to be important for some time, and now believe that an approach that is more neutral in protecting both existing NTSC stations and new DTV allotments would be appropriate and would better serve the interests of broadcasters and the public. Accordingly, the draft Table attempts to minimize interference to all stations and to balance unavoidable interference among both NTSC and DTV stations equally. Under this approach, existing NTSC service would be better protected than under our 1992 plan. At the same time, our service replication approach and the improved interference performance characteristics of the ATSC DTV system will ensure that future DTV service is equal or superior in coverage to today's NTSC service. We request comment on whether it would be desirable to minimize, to the extent possible, interference to all stations, both NTSC and DTV. Alternatively, we request comment on whether we should provide a preference for DTV allotments when a choice must be made between providing greater service area for a new DTV allotment or minimizing interference to an existing NTSC allotment.

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[41] Cf. Fourth Further Notice, at para. 60.

40. We note that any plan that provides all eligible broadcasters with a new DTV allotment will unavoidably result in some degree of interference to both NTSC and DTV stations. This is true whether the digital frequencies are distributed throughout the existing broadcast spectrum or whether the digital frequencies are generally placed in the spectrum at channels 7-51.[42] We note that interference to NTSC service could be mitigated by a number of factors. For example, as indicated previously, affected signals may be required to be carried by cable TV systems in their local area and thus may be available to many viewers in areas where the station's reception may be affected by interference. In this regard, interference occurs mainly at the edges of a station's coverage, where reception is relatively weak and where cable penetration is generally higher. We also note that viewers at the edges of a TV market often take steps on their own to improve reception, such as using improved directional antennas and other receiving equipment. Such equipment would also provide additional protection from interference by new DTV stations.

41. In addition, we could limit the power of certain DTV stations during the transition so that existing NTSC service would not be affected or that interference would be minimized. After the transition or when affected NTSC operations cease, the DTV stations would be permitted to increase their power. We also could permit broadcasters to negotiate agreements regarding interference among themselves. For example, a broadcaster could agree, for some amount of compensation, to reduce either its NTSC or DTV power to protect another station's service, or conversely, to accept a certain level of interference. We also note that in many instances the potential interference to NTSC service is more substantial for smaller NTSC stations that operate at significantly less power than full facilities. In such cases, interference may be eliminated or reduced by increasing the transmitter power or antenna height of the affected station. We propose to allow such changes provided that they do not cause any substantial increase in interference to neighboring DTV operations. We seek comment on these approaches and also invite parties to submit additional suggestions for methods to mitigate interference between DTV and NTSC stations.

E. Assignment Methodology

42. In the Second Report/Further Notice, we proposed a first-come/first-served methodology for assigning DTV channels. We also provided for negotiations among eligible broadcasters.[43] Under this plan, we would first provide broadcasters with a fixed period of time to negotiate with each other and submit plans for pairing NTSC and DTV channels either nationwide or on a market-by-market basis. Once the negotiations period ended, if there were markets remaining where broadcasters were unable to agree on a pairing plan, the channels in

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[42] We note that the total amount of interference to NTSC service is primarily a function of full accommodation, i.e., our goal of providing all existing stations with a companion DTV operation. Because all TV channels are used when necessary to avoid interference, there is, in general, very little impact on total NTSC interference from our spectrum recovery proposals. That is, as indicated previously, a full accommodation approach that used all channels and did not attempt any spectrum recovery would still result in about the same level of additional interference to NTSC service areas.

[43] See Second Report/Further Notice, at para. 35.

those markets were to be made available to the eligible broadcasters on a first-come/first-served basis.

43. Proposal. We are proposing to revise our methodology for assigning DTV channels to eligible broadcasters consistent with our plan to assume service replication in developing the DTV Table of Allotments. Under our revised proposal, DTV channels would be designated for existing stations based on the results of the matching process that is an intrinsic feature of the service replication approach used in developing the Table. This will greatly simplify and reduce the burden of the channel assignment activity for both broadcasters and the Commission. It may also serve to expedite the transition process by removing an element of uncertainty for broadcasters. This revised plan will also resolve the concern expressed by many broadcasters that use of a first-come/first-served approach could lead to legal challenges and delays in licensing DTV spectrum. We request comment on this proposal and on related issues involving DTV channel assignments. We also request comment on whether a first-come/first-served or other approach for assigning channels would better meet our goal of implementing digital television in an efficient, effective manner.

F. Negotiated Allotments/Assignments

44. Throughout this proceeding, we have recognized that the implementation of DTV will be a dynamic process and that mechanisms are needed to accommodate the inevitable changes that will occur. We believe that mechanisms are needed to consider changes to the Table of Allotments and the resultant assignments that are made to individual broadcasters. In this regard, we intend to provide broadcasters with the flexibility to develop alternative allotment approaches and plans both prior to and after our adoption of a final Table of Allotments. In this section, we discuss proposals for pre-adoption flexibility; and, in a following section on modifications to the DTV Allotment Table, we discuss proposals for post-adoption flexibility.[44]

45. As noted above, in the Second Report/Further Notice, we proposed that negotiations would be an integral part of the allotment/assignment process. We also indicated that at the time we propose a "final" DTV Table of Allotments broadcasters would be provided a fixed period of time to negotiate and submit alternative plans for allotting and pairing NTSC and DTV channels.[45]

46. Proposal. We continue to believe that voluntary negotiations among broadcasters should be permitted as part of the DTV allotment/assignment process. Consistent with the service replication approach, the DTV Table proposed herein provides for specific pairings between existing NTSC stations and new DTV allotments. While our computer software finds the "optimal" channels for each community and for stations within communities, we continue to believe that the flexibility to accommodate different frequency pairing

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[44] See Section IX at paras. 101 and 102, infra.

[45] Id.

arrangements developed through negotiations among broadcasters should be an integral part of the DTV allotment/assignment process. In this regard, we recognize that individual market circumstances might lead broadcasters to seek different allotment and assignment pairings based on considerations other than service replication. For example, channel numbering and identification factors might outweigh service area considerations for an individual broadcaster.[46]

47. We therefore believe it is important to provide broadcasters an opportunity to negotiate changes to our proposed DTV Table of Allotments and propose to consider such negotiated changes in the development of our final DTV Table as part of this rule making process. Specifically, we will permit broadcasters within a community to negotiate among themselves their designated allotments and to develop an alternative allotment/assignment plan for their local area. In either case, however, all affected broadcasters, including those in neighboring geographic areas, must agree to the revised plan and the change must not result in additional interference to other stations or allotments.[47] We also propose to not accept negotiated changes that would adversely limit our ability to gain the full benefits of spectrum reclamation that might accrue if we were to adopt the "core" allotment option described above. In addition, any changes will be subject to international coordination, as appropriate. We propose to require that all requests for DTV channel changes among stations be signed by the licensees of all of the stations involved in the exchange. We also propose to allow such exchanges to include agreements for compensation. We request comment on providing for privately negotiated changes, on our proposals to govern this process and on any other factors or suggestions we should consider.

48. We note that negotiations among broadcasters could result in agreements to co-locate DTV transmitters at a common site. Co-location could provide broadcasters increased flexibility to share spectrum and develop multichannel programming services and may also encourage the development of alternative DTV transmission technologies. In addition, a single DTV transmitter site would make it easier for viewers to receive programming from all of their local broadcast services. At the same time, we recognize that co-location may not be desirable for all broadcasters. In this regard, we note that, in some instances, co-location may limit the ability of a station to replicate its existing service area or could cause increased interference among stations in the same and neighboring markets. We request comment on whether we should provide special incentives to encourage the broadcasters in a market to locate all of their DTV operations at a common transmitter site. For example, should negotiated arrangements for co-located DTV stations be afforded priority over other stations? Should incentives apply only if such arrangements would result in no or less interference to other stations?

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[46] A station on NTSC channel 7, for example, might want to be assigned DTV channel 17 for identification purposes, despite the fact that channel 17 might have a slightly smaller service area than the DTV channel provided for that station in our proposed Table.

[47] We propose that an "affected broadcaster" is one whose allotment within a community would be changed or whose existing NTSC or new DTV service area would be affected technically by a proposed change to the Table.

49. As indicated in our Second Report/Further Notice, we will provide broadcasters with a fixed period of time to negotiate with each other and to submit plans for pairing NTSC and DTV channels. We request that parties submit such plans as comments during the comment period for this Further Notice, that is, by November 20, 1996. Interested parties are also invited to respond to any negotiated plans that we may receive during the period for filing reply comments, that is by December 20, 1996. Agreements that are submitted within the regular comment period will be considered in our decision on the final table. We will also permit negotiated changes after that time, and will treat requests for such changes as petitions for rule making to amend the Table of Allotments. However, parties are cautioned that negotiated changes will not be considered as justification for extending the period of time within which broadcasters will be required to apply, construct and begin to operate on their DTV channels.

G. Additional Considerations

50. During the transition, in most communities, digital allotments will use up all of the available spectrum for full-power broadcasting. But in some communities-- mainly rural areas-- unused channels may remain even after all existing broadcasters receive allotments.[48] After the transition, in many communities, additional substantial spectrum will be available in the core spectrum as a result of the approximately 1100 NTSC stations operating in this spectrum that will cease operating, even after the approximately 186 DTV stations that will operate in non-core spectrum relocate to the core spectrum.

51. Thus, assuming that some channels will be vacant in certain geographic areas during the transition, and more after the transition, we request comment on whether and how we should make those channels available. For example, once we have identified any remaining channels, should we accept applications for new primary, LPTV, and TV translator stations? Should we consider other possibilities, such as permitting existing broadcasters, either individually or jointly, to use the available channel or channels for additional broadcast or subscription programming? Should we permit broadcasters in a community to propose, as an alternative to the allotment plan in the attached Table, an allotment plan that would allow them to use, jointly or individually, more than one vacant channel apiece? Would we be required in this situation to consider other mutually exclusive applications ?[49] If we permit

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[48] For example, in Bangor/Orono, Maine, currently there are four NTSC stations. The attached DTV Table of Allotments provides DTV allotments for these four stations. However, even considering LPTV and TV translator operations, there appears to be sufficient spectrum in this area to operate a number of additional channels, either NTSC or DTV.

[49] See Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945). In Ashbacker, the Supreme Court held that the Commission is required under Section 309 of the Communications Act, 47 U.S.C. to give consideration to all bona fide mutually exclusive applications. In so holding, the Court did not, however, preclude the Commission from establishing threshold qualification standards that must be met before applicants are entitled to comparative consideration. Indeed, in United States v. Storer Broadcasting Co., 351 U.S. 192 (1956), the Court held that, in the context of a rule making proceeding, the Commission may establish eligibility standards that applicants must meet in order to receive comparative consideration. See also Fourth Further Notice, at para. 29.

such proposals, should the channels be used on a primary or secondary basis? If such use were on a primary basis, should we permit it where it would displace secondary LPTV and TV translator stations? If such use were on a secondary basis, how would we treat a subsequent application for a new primary station or a new LPTV or TV translator station? If we adopt the core spectrum approach, should our policies depend on whether the spectrum at issue is inside or outside the core? We request comment on these possibilities and on any other manner in which the spectrum might be utilized to bring additional service to the public both during and after the transition.

52. In evaluating allotment plans for DTV we ask commenters to consider the costs and benefits under alternative approaches to spectrum recovery. The amount, the location, and the date spectrum becomes available for new uses depends on both the table of DTV allotments adopted and on the choice of spectrum recovery policy towards unoccupied spectrum and spectrum currently occupied by NTSC licensees. One approach to spectrum recovery, put forth by Senator Pressler in draft legislation, would provide NTSC and DTV licensees with immediate broad flexibility in their use of the spectrum and require exhaustive flexible licensing of all available spectrum capacity by "overlaying" the entire VHF and UHF bands with new geographic area licenses that could use any available spectrum consistent with protecting existing full power broadcast licensees. The stated objective of the Pressler plan is to maximize the value of this spectrum by allowing its allocation to be reshaped by market forces. The approach could be applied to either of the allotment plans discussed above, and to all or part of the VHF and UHF bands.[50] We request comment on the costs and benefits of this approach, including: when such an approach might best be implemented were it to be used; its impact on the amount, timing, and value to the public of spectrum recovered; and how it might affect the future availability of spectrum for television broadcasting.

53. With regard to either alternative approach discussed above, we note that since July 1987, our policy has been to not accept applications for any new stations in 30 major markets.[51] Given this lengthy freeze, we request comment on whether, if we were to adopt an overlay approach, new broadcast TV applications should be accepted from these markets first. We also note that in the Fourth Further Notice, we recognized this Commission's longstanding policy of fostering programming and ownership diversity, and sought comment on what measures we might adopt to include new entrants in the emerging era of digital television broadcasting.[52] Similarly, we request comment on the affect adoption of the above proposals would have on new entry to broadcasting.

IV. OTHER ISSUES

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[50] Commenters may also wish to consider variations on the Pressler proposal including applying it to only a portion of the spectrum, or allocating some or all of the overlay licenses to specific uses such as public safety, land mobile or broadcasting.

[51] See Order, RM-5811 (Mimeo No. 4074, released July 17, 1987).

[52] See Fourth Further Notice, at para. 30.

54. In addition to the principles and objectives discussed above, there are several other matters that need to be considered in developing the DTV Table of Allotments. These matters include use of existing transmitter sites for DTV service, treatment of vacant NTSC allotments, displacement of low power TV stations and TV translators, use of TV channels 3, 4 and 6, and protection of land mobile services. These matters are addressed below.

A. Use of Existing Transmitter Sites

55. In the Second Further Notice, we proposed to allot DTV channels on the basis of current transmitter sites, rather than community reference points.[53] Under this proposal, the current NTSC transmitter sites would be used to develop the DTV Table and to determine whether DTV allotments met the proposed minimum spacing requirements. We further indicated that for purposes of this proposal, we would assume that an existing site location is the area within a three-mile radius of the actual transmitter location. We also proposed to permit a licensee to operate its DTV station at a site different from that of its NTSC operation where the alternate sites would meet the proposed DTV minimum spacing requirements and the station would continue to serve its community of license. We noted that such site relocations could include movement to a common local TV transmission site.

56. Proposal. We continue to believe it is desirable to allot DTV channels based on the transmitter sites of existing stations. We believe our reasoning with regard to this issue in the Second Further Notice still applies. As we noted in the Second Further Notice, there are advantages in taking existing transmitter sites into account in the allotment procedure. Using the locations of the existing transmitters sites as reference points for the initial DTV Table would facilitate replication of existing service areas. It also would ensure that, where possible, broadcasters are able to co-locate their NTSC and DTV operations. Accordingly, we are maintaining our proposal to use current transmitter sites to develop the DTV Table. We request comment regarding any circumstances where it might be desirable to evaluate DTV allotments on the basis of sites other than those occupied by existing TV stations. In recognition of the fact that many broadcasters will not be able to locate their DTV operations at the same exact site as their NTSC station, we are proposing to permit a broadcaster to locate its DTV facility at any site within a three-mile radius of the actual transmitter location, so long as the station would continue to serve its community of license.[54] Our experience in studying sample DTV Tables indicates that allowing a licensee's actual DTV transmitter site to be located within three miles of its existing transmitter site generally would not have a significant effect on station service areas and that any effect would be outweighed by the need to provide broadcasters with some flexibility in locating their digital TV operations. We request comment on these proposals and specifically invite discussion on whether three miles is an appropriate choice for the range within which a licensee would be allowed to choose a different site for its DTV transmitter.

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[53] See Second Further Notice, at paras. 35-36.

[54] Such site relocations could include movement to a common local TV transmitter site, provided the new common site is within three miles of the station's existing site and would allow the station to serve its community of license. As discussed above, we also intend to consider negotiated changes to the DTV Table and have asked for comment on whether to provide additional incentives for broadcasters to locate their DTV operations at a common site.

B. Existing Vacant Allotments, New NTSC Applications and Station Modifications

57. In the Second Further Notice, we proposed to delete vacant existing NTSC commercial allotments where necessary to facilitate creation of DTV allotments and indicated that we would not accept applications for those deleted allotments. We also stated that, in keeping with our decision in the Second Report/Further Notice, we would attempt to maintain existing vacant noncommercial NTSC allotments and also attempt to provide new DTV channels for such allotments.[55] We indicated that we would eliminate noncommercial allotments only where no feasible alternative exists for allotting DTV channels for eligible broadcasters. We further decided not to impose a "freeze" on applications for new stations on any remaining vacant NTSC allotments that are not needed to create the DTV Table of Allotments.[56] We also chose not to limit modifications to existing NTSC operations or changes in the transmitter locations of such stations.[57]

58. Proposal. We now believe that an approach that would eliminate vacant NTSC allotments would be beneficial to the development of the DTV Table and would help us to better achieve our goals of full accommodation, replication and spectrum recovery. There are currently about 600 vacant NTSC allotments.[58] The presence of these unused allotments reduces the amount of spectrum that is available for DTV allotments. In some areas, it would not be possible to accommodate all of the existing broadcasters with a DTV channel unless the unused NTSC allotments in the area are deleted. In others, the presence of unused NTSC allotments would result in crowding that reduces the expected service areas of the DTV allotments. It is also possible that such crowding could result in increased interference to existing NTSC stations. In addition, if vacant allotments are retained, we will have to use more channels to achieve full accommodation, so that less spectrum would be available for recovery for other uses. We therefore propose to eliminate all vacant NTSC allotments.

59. At the same time, we request comment on whether allotments for noncommercial service deserve special consideration. As we observed in previous decisions in this proceeding, our spectrum planning with respect to the broadcast industry has traditionally taken into account the important role noncommercial stations play in providing educational and other quality programming and the financial constraints they face.[59] In addition, our technical studies indicate that we can, in most instances, provide DTV allotments to replace existing vacant noncommercial allotments. For example, in developing the draft DTV Table

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[55] See Second Report/Further Notice, at paras. 36-37.

[56] Id., at para. 38.

[57] Id, at para 38.

[58] Of the 561 vacant NTSC allotments, 338 are for noncommercial service and 223 are for commercial use.

[59] See Second Report/Further Notice, at paras. 36-37; and Fourth Further Notice, at paras. 73-76.

of Allotments in Appendix B, it is possible to include replacement DTV allotments for 326 of the 338 existing vacant noncommercial NTSC allotments. However, most of these allotments would not be in the core DTV spectrum area. For example, of the 326 possible new vacant noncommercial DTV allotments, 64 would be in the core area, 76 would be on channels 2-6 and 52-59, and 186 would be on channels 60-69. We therefore request comment on how to treat noncommercial vacant allotments. If we were to adopt the core spectrum option, should we include those vacant allotments on channels in the core area and on channels 52-59? This would provide 140 new vacant noncommercial DTV allotments. We note, however, that after the transition it may be possible to create additional vacant noncommercial allotments in the core spectrum to replace those not accommodated in the initial DTV Table.

60. Consistent with our proposal to eliminate all existing vacant allotments, we will not accept additional applications for new NTSC stations that are filed after 30 days from the publication of this Further Notice in the Federal Register. This will provide time for filing of any applications that are currently under preparation. We note that there are currently on file with the Commission more than 300 applications that if processed would result in more than 100 new NTSC stations.[60] As we process the applications on file now and those that are filed before the end of this filing opportunity, we will continue our current policy of considering requests for waiver of our 1987 freeze Order on a case-by-case basis.[61] When applications for new stations are accepted for filing, we will continue our process of issuing Public Notices that "cut-off" the opportunity for filing competing, mutually-exclusive applications. In connection with these cut-off notices, we will allow additional competing applications to be filed after the end of this filing opportunity. While we anticipate that these applications for new NTSC TV stations on existing allotments will not have a significant negative impact on the development of the DTV Table of Allotments, we reserve the right, in specific cases, to determine that the public interest is better served if they are not granted, granted only if amended to specify reduced facilities, or granted only with a condition that limits the interference that the station would be allowed to cause.

61. Consistent with our decision to stop accepting applications for new NTSC stations, we also will not accept petitions for rule making proposing to amend the existing TV Table of Allotments in Section 73.606(b) of our rules to add an allotment for a new NTSC station.[62] Other petitions to amend the TV Table of Allotments (for example, proposing to change a station's community of license or altering the channel on which it operates, including changes in which channel allotment in a community is reserved for noncommercial educational use) can continue to be filed, but any such changes to the table that include a modification of a station's authorization will be conditioned on the outcome of this DTV rule making proceeding. This termination of the opportunity to file petitions to add NTSC

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[60] Of these pending applications, we have accepted applications for 10 stations where the application was on file before October 24, 1991, and therefore may become eligible for a DTV allotment. The proposed DTV Table includes an allotment for each of these cases.

[61] See Order.

[62] See 47 CFR. §73.606(b).

allotments for new stations is effective as of the close of business on the date of adoption of this Further Notice. Any petitions that are currently on file and any rule making proceedings that are currently open will be addressed on a case-by-case basis, taking into account the impact on the draft DTV allotment table. For those pending cases in which a new NTSC channel is allotted, we will make an exception to our decision to cease accepting applications for new NTSC stations, and the accompanying allotment Report and Order will specify the period of time for filing applications.

62. Our decision to cease accepting applications for new NTSC TV stations 30 days after publication of this Further Notice in the Federal Register and new petitions for rule making to add new NTSC allotments immediately, as indicated above, is based on the need to preserve the available spectrum for use by new DTV stations during the transition. The DTV Table proposed herein was developed on the assumption that the existing vacant NTSC allotments for which no construction permit application is pending will be deleted. It is necessary to delete these allotments in order to achieve our goal of providing a DTV allotment for all eligible broadcast stations. In addition, we also believe it is necessary to terminate the licensing of new NTSC as quickly as possible in order begin the process of transitioning to DTV service. To continue to accept new applications for NTSC stations, now that we are approaching the actual start of this new service, could potentially prolong the transition process. We note that the additional 30 day period we have provided for filing new applications for NTSC construction permits will accommodate any parties who may be in the process of preparing such applications now. Accordingly, as allowed under Section 553(b) and (d) of the Administrative Procedures Act, we find that there is good cause for implementing these new policies without a notice and comment procedure and that such a procedure would be contrary to our efforts to implement DTV service.[63]

63. With regard to modifications of existing stations, we are concerned that the service area replications to be provided by the draft Table set forth herein could be substantially affected if stations make changes to their technical operations, i.e., maximum effective radiated power (ERP), antenna height above average terrain (HAAT), and transmitter locations from this point on. Furthermore, continuing changes in station operations could affect broadcasters ability to comment meaningfully on the proposed Table and our ability to finalize the DTV Table of Allotments. We are also concerned, however, that freezing modifications to existing NTSC stations could pose hardships for broadcasters. We note that in many cases it may be possible to permit modification of existing stations without affecting the DTV Table. We therefore will continue to permit the filing of applications to modify the technical facilities, i.e., ERP, HAAT or transmitter location, of existing or authorized NTSC TV stations. However, in order to preserve our ability to develop the DTV Table, we will henceforth condition the grant of applications for modifications of technical facilities, including those for applications on file before the date of the adoption of this Further Notice but granted after that date, on the outcome of our final decision on the DTV Table of Allotments. To the extent that an existing station's service or potential for causing interference are extended into new areas by grant of an application, the condition may require

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[63] See 5 U.S.C. 553(b) and (d).

the station's authorized facilities to be reduced or modified. We seek comment on whether this condition should involve different consequences for applications for modifications on file as of the date of adoption of this Further Notice, as opposed to such applications filed after that date.

C. Low Power and TV Translator Stations

64. In previous actions in the proceeding, we determined that in order to provide DTV allotments for existing full service stations, it will be necessary to displace low power TV (LPTV) and TV translator stations to some degree, especially in the major markets.[64] This determination was based on our staff studies and studies by the Advisory Committee that indicate there is insufficient spectrum available in the broadcast TV bands to factor in low power displacement considerations in making DTV assignments.[65] We observed that, in fact, it will be a challenge just to provide all full-service licensees with an additional 6 MHz for DTV. We therefore concluded that we must continue LPTV and TV translators secondary status vis-a-vis DTV stations. In view of the important benefits that LPTV and TV translators provide to the public, we also took a number of steps to mitigate the likelihood and effects of displacement on low power stations. Our decisions with regard to this issue have been upheld on judicial review. See Polar Broadcasting vs. F.C.C., 22 F.3d 1184 (D.C. Cir. 1994)(table).

65. Proposal. Consistent with our determinations and actions in the Second Report/Further Notice and based on our examination of the performance characteristics of the ATSC DTV system, we propose to continue the secondary status of LPTV and TV translator stations.[66] As indicated in the Second Report/ Further Notice, it will likely be necessary that we require a significant number of low power stations, particularly those in the more congested areas of the nation, to make changes in their operation, including the possibility of ceasing operation, to avoid interference to new digital TV stations. This is true under any allotment plan that has been suggested for the implementation of DTV. Low power stations

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

[65] 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).

[66] Island Broadcasting (Island), the licensee of three low power TV stations operating in the New York City metropolitan area and on Long Island, in an earlier letter to the Commission, argued that it may be possible to provide a DTV channel for all of the existing full service TV stations in the New York market without displacing any of the existing LPTV/translator stations in the area. Island included an illustrative DTV allotment table for the New York City area that would not use any of the existing LPTV and TV translator channels. Where feasible, a number of Island's proposals were incorporated in preparing the proposed DTV Table of Allotments included herein.

operate in spectrum now unoccupied by NTSC stations. Any DTV allotment plan requires that unoccupied spectrum to accommodate over 1900 new digital TV stations.

66. In general, LPTV and TV translator stations are carefully engineered to avoid causing interference to full service TV operations. For example, almost 50 percent of LPTV stations use directional antennas to provide service and avoid such interference. Reduced power and/or antenna gain are also used to achieve satisfactory operation. Stations operating in mountainous or hilly terrain often rely on terrain obstructions as a means of preventing interference. The task of analyzing the impact of DTV on LPTV and TV translator stations is extremely complex and station specific. Because of this, we can only approximate the number of LPTV stations that would be affected or have to cease operation because of new DTV operations.[67] Based on the proposed DTV Table, we estimate that about 55 to 65 percent of existing LPTV operations and about 80 to 90 percent of all TV translators would be able to continue to operate.[68] In general, operations in or near major TV markets would be affected to a greater degree than operations in other areas. Furthermore, these estimates are based on the expected impact of new DTV operations and do not take into account our spectrum recovery proposals. We note, for example, that about 17 percent of all LPTV and TV translator stations would be affected by recovery of channels 60-69. However, it should be noted that channels 60-69 are used for DTV allotments in a number of instances and some impact on low power operations on these channels would occur even absent our spectrum recovery effort. We also note 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 believe that with more intensive utilization of the remaining channels, it should be possible to accommodate many LPTV and TV translator operations that are displaced. Accordingly, while we recognize that the implementation of DTV service and our spectrum recovery proposals are likely to have a significant impact on low power stations, we believe on balance that the benefits and innovations to be derived from these actions outweigh this impact.

67. At the same time, we continue to recognize the benefits that low power stations provide to the public. LPTV stations have increased the diversity of television programming and station ownership, and serve many rural and urban ethnic communities. TV translators are used to provide TV service to communities located in areas of mountainous terrain and to provide "fill-in" service to shadowed areas within a full service stations service area. We

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[67] We note that it may be possible for some affected stations to resolve interference by changing their operation in some way (relocation, changing channel, reducing power or modifying antenna gain/pattern) rather than cease operation. Since we are not in a position to determine whether such changes are possible, we have not attempted to differentiate between these two impacts.

[68] While the actual criteria for controlling interference between LPTV and DTV will be based on specific desired to undesired (D/U) signal levels and the actual technical parameters of each station, we believe that a satisfactory estimate of impact can be derived from a more simple "separation distance" approach. Our estimates of low power impact are based on a co-channel separation distance of 70 to 80 miles and an adjacent channel separation of 60 to 70 miles.

therefore desire to minimize the impact of our DTV allotment and spectrum recovery proposals on low power TV operations. In view of these considerations and keeping with the decisions made in the Second Report/Further Notice, we are maintaining 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.[69] We will extend this relief measure to LPTV and TV translator licensees and permittees whose facilities have or would be predicted to conflict with a DTV station operation. To insure the most effective use of this policy, we propose that applications for such "displacement" relief could 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. Moreover, we will permit low power stations to operate until a displacing DTV station or a new primary service provider is operational. We will also 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.[70]

68. We also propose to permit low power TV operations on channels outside the core digital TV spectrum area.[71] Such operations would, however, 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. While we are proposing that LPTV and TV translator stations remain secondary to other new primary uses of this spectrum, we also request comment on whether new service providers should be required to compensate existing LPTV and TV translator licensees for their existing investment or for their move to another channel if such a move is possible.

69. Despite these measures, a number of LPTV stations would still be forced to cease operation in order to avoid interference to new DTV channels. We seek to explore other policies that would preserve access to LPTV programming. Are there 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, should the Commission consider incentives to encourage full-service digital stations to find ways to accommodate LPTV and TV translator stations? Similarly, should the Commission consider incentives to

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[69] See Second Report/Further Notice, at para. 45. The Commission's 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.

[70] 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 (see Appendix A).

[71] In this regard, we believe that permitting such operations on these channels will provide additional relief for low power broadcasters until the end of the transition period when other spectrum within the core region will become available.

encourage carriage of LPTV stations on cable systems beyond the requirements set forth in Section 614(c) of the Communications Act?

70. We seek comment on any and all means of lessening the impact on low power TV and TV translator stations. In so doing, we invite the LPTV and TV translator communities to identify workable means of preserving existing LPTV service to the extent possible and providing a digital migration path for LPTV and TV translator stations. If we were to adopt the core approach described above, we could also set aside a few frequencies between channels 52 and 59 specifically for use by displaced LPTV stations. If such frequencies were used for digital services, each channel could accommodate a number of LPTV broadcasters. Use of such channels by low power stations, as a guard band, could reduce the potential for interference to any future nonbroadcast operations.[72]

71. Currently, the rules do not permit low power and TV translator stations to operate on certain channels within specified distances of full service stations.[73] 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 restrictions are generally needed to protect against interference, in many instances interference would not occur between the stations due to terrain or other factors. The current LPTV interference protection rules, however, 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 request a waiver of the rules to take terrain shielding and other mechanisms into account.[74] In order to provide low power operations with additional flexibility, we propose 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 propose 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. Applications that 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

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[72] See comments of the Community Broadcasters Association in response to the Fourth Further Notice.

[73] See Section 74.705 of the rules, 47 CFR §74.705.

[74] 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.

shielding. We also request comment on any other actions we could take that would provide low power stations, where necessary, with additional flexibility to find replacement channels.

72. We also ask for comment on whether, once DTV channels have been allotted to full service television broadcasters, should licensed LPTV stations be afforded a window of opportunity to seek "primary" use of DTV channels; that is, ahead of new broadcast entrants? If so, should such stations be permitted to seek full service DTV licenses or facilities that would replicate their LPTV coverage areas? How should we proceed in areas where there would be more LPTV stations than available channels? Should we allow multiple LPTV licensees to share a DTV channel, by multiplexing their signals? Given the large numbers of stations in the LPTV service, should we 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?

D. Use of TV Channels 3, 4 and 6

73. In the Second Further Notice, we observed that if we decide to use the VHF channels for DTV, there could be potential for interference to cable terminal devices (set-top boxes) and videocassette recorders (VCRs) if channels 3 and 4, at 60-66 MHz and 66-72 MHz respectively, were used in the same area. 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. We therefore proposed to avoid the allotment of both Channels 3 and 4 within the same community wherever possible. We also noted that we would need to protect against possible interference from TV channel 6 operations, at 82-88 MHz, to FM radio service on FM channel 253, at 98.5 MHz and to TV channel 6 from FM radio service on noncommercial educational FM channels 201-220, in the 88-92 MHz band. We therefore proposed to make DTV allotments to TV channel 6 only where there is no other readily available allotment opportunity that would meet the minimum spacing requirements.[75] 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.[76]

74. Proposal. We are maintaining our proposals to avoid use of both channels 3 and 4 for DTV service in the same community wherever possible and to make DTV allotments to TV channel 6 only where there is no other readily available allotment opportunity that would meet the minimum spacing requirements. We also propose to maintain our plan to apply an appropriate standard similar to that currently specified in the rules to protect against interference between NTSC Channel 6 and FM radio. While we do not have specific data

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[75] The sample Table included in the Second Further Notice did not use channel 6.

[76] 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.

with regard to interference between DTV and FM operations, we believe that the current standards to protect against interference between FM radio and NTSC TV stations should be sufficient to avoid interference between DTV and FM service.

E. Land Mobile Sharing

75. In the Second Further Notice, we also set forth proposals for protecting against possible interference between DTV stations and land mobile operations on TV broadcast frequencies in certain areas. The rules authorize land mobile sharing 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.[77] We therefore 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. We also noted that some additional conditions may be necessary in those few instances where these spacing distances cannot be met. 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 allotment purposes in those markets.

76. Proposal. We believe that our earlier proposed spacing approach remains appropriate for regulating interference between DTV stations and existing land mobile operations. Based on performance of the ATSC DTV system, the co-channel and adjacent channel spacing requirements proposed in the Second Further Notice should provide a conservative measure of protection for both DTV and land mobile operations. We will therefore continue to propose to permit 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. We will also maintain our proposal to make channels 15 and 16 in Detroit and channels 14 and 15 in Cleveland available for DTV allotment purposes. We request comment on these proposals. We specifically invite comment and suggestions regarding the additional conditions that would be applied in cases where the

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[77] 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

proposed spacing standards cannot be met and the manner in which such conditions should be applied to achieve an appropriate balance between DTV and land mobile interests.

77. The DTV Table proposed herein assumes that channel 20 would remain available for land mobile operations in Philadelphia. However, we note that the broadcast industry, in developing sample DTV plans, has 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 recognize 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. At the same time, we also recognize that there are a substantial number of land mobile operations licensed in the Philadelphia area.[78] We request comment on the impact of eliminating channel 20 use for land mobile service in Philadelphia and on whether the reduction in broadcast service interference would outweigh the benefits of maintaining channel 20 for land mobile in Philadelphia. We further request comment on what alternatives are available for accommodating the existing land mobile operations and to what extent broadcasters should be required to assist in such a reaccommodation if we were to recover channel 20 in Philadelphia for broadcast use.

F. DTV Frequency Labeling Plan

78. Under the DTV core spectrum option presented above, the core spectrum for DTV service would occupy the frequencies now used by NTSC channels 7-51. It would seem appropriate to establish a new labeling scheme for the DTV frequencies, so that TV frequencies in the future would not begin with "Channel 7." We request proposals and comments relating to an appropriate frequency labeling scheme for DTV service. We encourage interested parties to be creative in their proposals. In this regard, we do not intend to limit our consideration to approaches that only use numerical designations. In considering this matter, we note that the most obvious approach would be to simply renumber NTSC channels 7-51 as channels 1-45 for DTV service. However, it might be simpler, more appropriate and ultimately less confusing to viewers to whom the term "channel" implies a single stream of video programming to employ a different designation format for DTV channels that clearly indicated that a channel would carry DTV service.[79] For example, we could use a prefix such as "D" for digital or DTV before each channel number or we could start numbering DTV channels at 101. Another approach would be to use alphabetic designators, i.e., channels A, B, C ... AA, BB, CC, etc. This would allow broadcasters to label multiplexed programming, channels A1, A2, A3, B1, B2, etc. Another approach for labeling or numbering of DTV channels could be to use a scheme similar to that used for FM radio. Such an approach would permit broadcasters to use the center frequency of the DTV channel, or an abbreviated center channel designation in combination with a call sign, e.g., channels 19 and 20 might be called 503 MHz and 509 MHz or "WXXX500" and "WYYY510."

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

[79] See n. 4, supra.

79. The establishment of a new basic designation format for DTV channels plan might also help to highlight the channels of DTV stations for viewers during the transition period. We believe it is important that the DTV channel designators be kept as brief as possible, as a matter of convenience for stations, viewers and those who provide program listings. We therefore ask that suggestions for the DTV channel numbering plan minimize both the length and complexity of the channel designators. For purposes of the DTV Table of Allotments proposed herein, we will continue to use the equivalent NTSC channel designations for DTV channels.

V. ALLOTMENT METHODOLOGY AND APPROACH

A. Technical Performance of the DTV System

80. Proposal. In the early stages of this proceeding, studies by our staff indicated that in order to accommodate all existing stations with a DTV channel it would be necessary to locate some co-channel DTV operations at distances to other NTSC and other DTV stations as close as 160 km (100 miles), with perhaps a very few stations at slightly closer spacings.[80] Our staff studies further indicated that to achieve full accommodation it will be necessary to co-locate or reduce spacings between adjacent channels in some instances and to eliminate many of the UHF taboo restrictions.[81] The information from these studies was used in designing the performance capabilities and interference characteristics of the ATSC DTV system. We propose to use the performance characteristics of the ATSC DTV system in developing DTV allotments and have used these characteristics in developing the proposed DTV Table of Allotments set forth herein.[82] We request comment on our proposal to use the performance capabilities and interference characteristics of the ATSC DTV system in developing the DTV Table of Allotments.

B. Methodology for Allotting DTV Frequencies

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[80] See "Interim Report: Estimate of the Availability of Spectrum for Advanced Television (ATV) in the Existing Broadcast Television Bands," supra; and, "Interim Report: Further Studies on the Availability of Spectrum for Advanced Television," supra.

[81] Other FCC staff studies of NTSC receiver performance and spectrum availability also indicated that it appeared possible to use the UHF taboo channels for DTV service. See "Analyses of UHF TV Receiver Interference Immunities Considering Advanced Television Service," FCC/OET TM88-2 (August 1988); see also "Interim Report: Estimate of the Availability of Spectrum for Advanced Television (ATV) in the Existing Broadcast Television Bands," supra.

[82] The system performance capabilities and planning factors include: 1) the signal-to-noise ratio (S/N) defining the outer limit of service; 2) co-channel desired-to-undesired interference ratios (D/U) for DTV-to-DTV, DTV-to-NTSC and NTSC-to-DTV signals; and, 3) the upper and lower adjacent channel D/U ratios for these same signal relationships. The specific system performance characteristics of the ATSC DTV system used in the development of the proposed Table are presented in Appendix A.

81. In the Second Further Notice, we proposed to allot DTV channels using geographical spacing criteria in the same manner that we currently allot NTSC TV and FM radio channels.[83] These spacing criteria would specify the minimum permissible distance between stations operating on the same or adjacent channels.

82. Proposal. We are now proposing to revise our methodology and approach for developing the DTV Table of Allotments. In particular, we are now proposing to create DTV allotments based on evaluation of service replication and interference considerations, rather than minimum spacing standards. We believe this new approach for allotting digital TV channels will better meet our policy objectives of full accommodation, spectrum recovery, and service replication/maximization. The proposed methodology first identifies a list of available candidate DTV channels for each existing NTSC station using a threshold minimum spacing measure. As noted above, our earlier studies indicated that spacings as close as 97 miles will be necessary to achieve full accommodation. Our proposed methodology therefore identifies the candidate DTV channels for each existing NTSC station as all available channels at the station's location that would have a co-channel separation of at least 97 miles. Next, each of the candidate channels is evaluated with regard to its ability to replicate the coverage of the existing station and the interference caused to other stations. The computer model selects DTV allotments from the candidate channels using an optimization process. This process optimizes the DTV allotments based on the channels that best replicate the existing service areas while minimizing interference.[84]

83. The engineering evaluations for determining service coverage area and interference are computed using appropriate propagation models, technical planning factors recommended by the Advisory Committee and the measured performance characteristics of the ATSC DTV system.[85] These evaluations consider the potential for interference between stations, particularly between stations operating on the same channel (co-channel interference) and stations operating on channels one frequency apart (adjacent channel interference).[86] In

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[83] See Second Further Notice, at paras. 25-30; see also 47 CFR §§73.207 and 73.610.

[84] We note that our replication proposal automatically takes into account station differences resulting from the different spacing standards in Zones I, II and III. The use of Zones in allotting TV broadcast channels is described in Sections 73.609 and 73.610 of the rules, see 47 CFR §§73.609 and .610.

[85] A description of the propagation models and service area planning factors are included with the system performance data in Appendix A.

[86] The degree to which television stations interfere with one another depends in part on the ability of TV receivers to reject undesired signals in favor of a desired signal. The common measure of interference between stations is the ratio of the desired signal to the undesired signal (D/U ratio). Depending on receiver characteristics, unacceptable interference will occur when the D/U ratio between signals exceeds some level that is determined through testing. The D/U level at which unacceptable interference occurs varies depending on the channel relationship of the desired and undesired signals. In general, interference between stations can be managed by limiting the power of their signals, the height of their transmitting antennas and the distance between their transmitter locations. In the case of NTSC TV service, the Commission has managed interference between stations by requiring that the

addition, while our earlier studies had indicated that UHF taboo restrictions would not be needed for DTV allotments, the test results for the ATSC DTV system now indicate that certain taboo restrictions should be applied between DTV and NTSC operations.[87] In particular, these tests indicate that interference could occur from DTV to NTSC stations within a station's service area Therefore, our evaluation takes into account possible interference from DTV service to NTSC service on channels 2, 3, 4, 5, 7, 8, 14 and 15 channels removed from the channel under evaluation. We request comment on this revised methodology for developing the DTV Table.

VI. DTV TABLE OF ALLOTMENTS

A. Allotment Computer Software

84. The development of a table of digital TV allotments is an extremely difficult and complex engineering and computational task. To handle this task, the staff of the Commission's Office of Engineering and Technology has developed sophisticated operations research methodology and computer software for optimizing the allotment of DTV channels. In addition, our staff and industry have worked together to incorporate methodologies for calculating the service area and interference considerations that are required under a service replication allotment approach. We have used the allotment capabilities provided by this methodology and computer software in preparing the proposed DTV Table of Allotments presented below.

85. The computer model developed by the FCC staff and industry generates DTV allotments that optimize and balance the various policy objectives and proposals discussed above. The computer software incorporates an operations research optimization methodology known as "simulated annealing."[88] This methodology employs a system of penalties that

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locations of co-channel and adjacent stations meet minimum geographic separation standards.

[87] 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. Allocation constraints on these combinations (e.g., channels +/- 2, 3, 4, 5, 7, 8, etc.) are known as UHF taboos.

[88] See David S. Johnson, Cecilia R. Aragon, Lyle A. McGeoch and Catherine Schevon, "Optimization by Simulated Annealing: An Experimental Evaluation, Part II (Graph Coloring and Number Partitioning)," Operations Research, Vol. 39, May-June 1991. In addition to the simulated annealing software, the staff has obtained software that incorporates a method known as "Lagrangian Relaxation." This method and its software implementation were developed by Decision-Science Applications, Inc. (DSA) under contract to the FCC. The DSA DTV allotment software is an extension of earlier work by DSA that produced the computer software used by the FCC to develop new FM radio allotments in MM Docket No. 80-90. The DSA software complements the simulated annealing software, and partial allotment solutions developed through either software package can be used in the other so that the two packages can be used together.

attach to conditions that fall short of specified objectives. The simulated annealing method seeks to minimize the sum of these penalties, or "costs," to achieve an optimum condition.

86. The computer model permits the rapid computation and analysis of service area coverage provided by the NTSC and DTV systems, both on an overall cumulative basis and for individual stations. The service area of an individual NTSC station is defined as the area within the station's Grade B service contour, reduced by any interference; and is computed based upon the actual transmitter location, power, and antenna height.[89] The service area of a DTV station is defined as the area contained within the station's noise-limited contour, reduced by the interference within that contour. DTV coverage calculations assume locations and antenna heights identical to those of the replicated companion NTSC station and power generally sufficient to achieve noise-limited coverage equal to the companion station's Grade B coverage.

87. As stated in the Second Further Notice, we recognize that there may be instances where the allotment of channels in specific local situations can best be resolved on a case-by-case basis.[90] Our allotment software therefore is able to merge specific local designs into complete tables and, where necessary, make changes in other allotments to preserve a balance of the specified policy considerations. This capability will allow us to incorporate allotment/pairing agreements that broadcasters may reach in any negotiated settlements.[91]

B. Proposed DTV Allotments

88. A draft DTV Table of Allotments is presented in Appendix B. This Table shows DTV allotments and channels pairings for all eligible broadcast entities that would result from "core spectrum" option described above. The Table is a draft and we anticipate revisions. Our staff will work with broadcasters and other parties to revise the draft Table as appropriate. This Table is based on the allotment principles and engineering assumptions discussed above. Changes in any of these proposals may affect the individual allotments that appear on the Table. The draft DTV Table of Allotments is described below.

89. Full Accommodation. The draft Table meets our primary objective of full accommodation of all eligible broadcasters.[92] [93] The Table proposes 1578 new DTV

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[89] The Grade B contour of TV broadcast stations is defined in Section 73.683 of our rules, see 47 CFR §73.683.

[90] See Second Further Notice, at para. 51.

[91] It may not always be possible to incorporate the allotments specified in a given local agreement into the overall Table and still meet the specified policy criteria. For this reason, all negotiated allotment/pairing agreements submitted by broadcasters will be carefully reviewed and evaluated by this Commission.

[92] The single exception is Puerto Rico, where more than half the broadcasting channels are already allotted. (There are only 67 channels in the TV broadcast bands. Of these, 34 channels are operating or have been awarded construction permits and an application is on file

allotments in 878 communities in the continental U.S.[94] This would provide a DTV allotment for all eligible broadcasters as defined in the Second Report/Further Notice. In addition, the proposed Table allows for 140 additional DTV allotments for non-commercial use.

90. DTV Service Areas. The draft Table also fulfills our goals of service replication/maximization. In general, existing broadcasters would be provided with a DTV allotment that is capable of providing digital TV coverage of a geographic area that is comparable to their existing NTSC coverage. In fact, during the transition period, over 50% of all existing broadcasters would receive a DTV allotment that fully replicates their existing service area; and more than 94% would receive an allotment that replicates at least 95% of their existing service area. We also believe that the draft Table meets our objective of minimizing new interference to NTSC service. For example, 96% of all NTSC stations would receive less than 10% new interference from DTV operations.[95]

91. Spectrum for DTV Allotments. The draft DTV Table also meets our spectrum goals of providing all eligible broadcasters with a suitable DTV allotment and for ensuring that the spectrum is used efficiently. Based on our analysis of the proposed Table, all eligible broadcasters eventually would have access to a suitable DTV frequency within the proposed new spectrum area designated for digital TV, i.e., existing TV channels 7-51 in the frequency bands 174-216 MHz and 470-698 MHz; and, a total of 138 MHz of valuable VHF and UHF spectrum could be recovered eventually.

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for a 35th channel, all on an island whose size does not normally permit frequency reuse. Channel 37 is used for radio astronomy and therefore is not available for assignment to a broadcaster. This leaves 32 channels available as candidates for DTV allotments in Puerto Rico.) In developing the proposed allotments for Puerto Rico, we gave first priority to the operating stations. To make best use of the channels available, we included a DTV allotment of the same channel, 62, as that of the (ineligible) NTSC application in San Juan. The allotment is made to the station most distant (144 km or 90 miles) from San Juan, and the intervening terrain is mountainous. We were then left a small number of eligible stations having only construction permit status. Of the latter, only Fajardo channel 34 is in a multi-station community. We therefore choose, as in the Second Further Notice, to provide Fajardo with only two DTV allotments for the three stations there. In making this choice, we also considered that Fajardo is at the east end of the island, which affords the best chance of duplicating a west-end DTV channel through application of a case-by-case engineering analysis.

[93] We also note that some of the channels specified in the draft table are not fully compliant with the existing U.S.-Mexican agreement. We will work with the Mexican government to clarify the status of DTV allotments in border areas.

[94] The draft DTV Table also includes allotments for Alaska, Hawaii, Puerto Rico and the Virgin Islands. With these additional allotments, the Table provides a total of 1990 allotments in 979 communities.

[95] These estimates are based on terrain-dependent Longley-Rice propagation models and assume that all NTSC and DTV stations are in operation. As indicated previously, some interference from DTV operations to NTSC service is unavoidable. Even in the case of the MSTV Table, which omits certain considerations that would affect interference, about 2% of all NTSC stations would receive more than 10% interference from DTV operations.

92. Specifically, the draft Table provides for the great majority of new DTV allotments within the proposed new digital TV spectrum. 1392 of the 1578 new DTV allotments for existing eligible broadcasters in the continental U.S. are on TV channels 7 through 51. Of the 186 new allotments that are outside this core DTV spectrum area, 169 of these are paired with existing NTSC stations that are currently operating on TV channels 7 through 51. There are only 17 instances where both the new DTV allotment and the existing NTSC operation are on channels located outside the core DTV spectrum. Even in these cases, however, suitable channels within the core area will become available as NTSC operations cease and channels are recovered from other stations. We have asked above whether all costs associated with any second transition that is necessary to convert DTV operations from channels located outside of the core area to channels located in the core spectrum should be borne by the new user of the spectrum.

93. Other Allotment Considerations. The draft Table avoids use of TV channels 3, 4 and 6 for the reasons given above and no new DTV allotments are provided on these channels. With regard to land mobile sharing, all of the allotments contained in the proposed DTV Table would comply with the proposed 155 mile co-channel spacing requirement between DTV allotments and land mobile operations; but the proposed Table includes nine cases where DTV allotments would be located at distances less than 110 miles from the city-center of an adjacent channel land mobile system.[96] Nevertheless, while such geographical separations are desirable, we believe that there are engineering solutions available to handle any adjacent channel interference concerns between land mobile and DTV.

VII. ALLOTMENT MODIFICATIONS

A. Maximum and Minimum Station Facilities

94. As indicated above, we are proposing to provide initial DTV allotments that will allow existing broadcasters to provide DTV service to a geographic area that replicates the service area of their existing NTSC station. The draft DTV Table of Allotments identifies an effective radiated power (ERP) and an antenna height above average terrain (HAAT) for each

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[96] The nine cases where DTV allotments would be less than 110 miles from adjacent channel land mobile operations are:

Channel 15, Los Angeles, CA (land mobile channels 14 and 16 in Los Angeles, CA)
Channel 15, San Mateo, CA (land mobile channel 16 in San Francisco, CA)
Channel 15, Providence, RI (land mobile channel 14 and 16 in Boston, MA)
Channel 16, Frederick, MD (land mobile channel 17 in Washington, DC)
Channel 16, Kenosha, WI (land mobile channel 15 in Chicago, IL)
Channel 17, Manchester, NH (land mobile channel 16 in Boston, MA)
Channel 18, Secaucus, NJ (land mobile channel 19 in Philadelphia, PA)
Channel 18, Stockton, CA (land mobile channel 17 in San Francisco, CA)
Channel 21, Vineland, NJ (land mobile channel 20 in Philadelphia, PA).

DTV station.[97] The antenna HAAT specified for each DTV allotment is the same as antenna HAAT of its associated NTSC station. The ERP for each allotment is then calculated to provide service area replication up to a maximum ERP of 5 megawatts. We also propose in the draft DTV Table the following minimum values for ERP: 1 kW for lower VHF channels, 3.2 kW for upper VHF channels, and 50 kW for UHF channels. This would ensure that smaller stations, if they desire, are able to expand their existing coverage as they transition to DTV. We request comment on this approach and on our proposed maximum and minimum ERP values.

95. We also believe that new stations that operate on DTV allotments created after the initial Table should also be authorized sufficient technical facilities to enable them to serve their communities of license as well as an area around those communities comparable to the service areas of typical NTSC stations. We are therefore proposing to specify a maximum permissible power of 316 kW effective radiated power and a maximum antenna height of 2000 feet height above average terrain for stations that operating on new DTV allotments created subsequent to the initial Table. Our proposed maximum permissible ERP and HAAT specifications for future DTV allotments would allow a station to serve a geographic area with a radius of up to 107 km (about 66 miles), which corresponds to the predicted Grade B service area of an NTSC station operating at maximum power and HAAT on a UHF channel. We observe that at antenna heights lower than the proposed 2000-foot maximum, additional power would be needed to serve a geographic area of this size. We therefore are proposing to allow DTV stations to operate with higher ERP levels at lower antenna HAAT levels in accordance with the following table:[98]

Proposed Maximum Allowable ERP and Antenna Height
for Future DTV Stations

Antenna Height HAAT (feet)	Effective Radiated Power (kW)
2000	316
1900	400
1800	450
1700	500
1600	600

[97] See Appendix B.

[98] For antenna heights 1600 feet and below, the proposed maximum permissible power would be slightly less than the level needed to fully serve the area within a 107 km radius. This adjustment is necessary to avoid the potential for increasing interference to neighboring co-channel stations.

1500	700
1200	1000
1000	1500
700	2500
500	3000

We request comment on these proposals for the maximum technical facilities for future DTV stations.

96. Finally, we note that Section 73.614 of the rules provides formulas for calculating the maximum permissible ERP where a station's antenna exceeds the 2000 feet maximum.[99] We believe a similar approach would be appropriate for DTV stations. We request suggestions for the appropriate HAAT/power equivalency formulas to use for DTV stations. We also request comment on whether we should specify a minimum ERP for full service DTV stations in Section 73.614.

[99] See 47 CFR 76.614.

B. Future Allotments and Modifications to the DTV Table

97. We request comment on what approach or approaches should be used for the purpose of adding future DTV allotments and modifying the initial DTV Table. Specifically, we request comment on whether an approach that uses minimum geographical spacing distances similar to what is now used for NTSC allotment changes or an approach that uses engineering criteria to show that the new allotment does not cause additional interference to other allotments or stations would be more appropriate for DTV.

98. Geographic Spacing Approach. Spacing standards have proven to be an efficient and effective means for managing interference between NTSC stations and we believe that such an approach could be used to determine the technical acceptability of DTV channel allotments. We note that geographic spacing approach provides considerable flexibility in the specification of station operating parameters such as power and antenna height. Based on the engineering performance characteristics used in developing the initial DTV Table proposed herein, we have developed the following DTV spacing standards. If we adopt a geographical spacing approach, we would propose to permit the addition or modification of DTV allotments provided such allotments meet the following spacing standards.[100]

Channel Relationship		Separation Requirement
VHF Channels 7-13		
Co-channel, DTV to DTV		
	Zone I	152 miles (244.6 km)
	Zones II & III	170 miles (273.6 km)
Co-channel, DTV to NTSC		
	Zone I	152 miles (244.6 km)
	Zone II & III	170 miles (273.6 km)

[100] Proposals for new DTV allotments would also be subject to other requirements and standards for new allotments set forth in Sections 73.610 and 73.611 of our rules, see 47 CFR §§73.610 and 73.611. The DTV to NTSC minimum spacing requirements would apply only during the transition period.

Adjacent Channel		
DTV to DTV		No allotments permitted between:
	Zone I	25 miles (40.2 km) and 60 miles (96.6 km)
	Zones II & III	30 miles (48.3 km) and 60 miles (96.6 km)
DTV to NTSC		No allotments permitted between:
	Zone I	7 miles (11.3 km) and 71 miles (114.3 km)
	Zone II & III	11 miles (17.7 km) and 91 miles (146.4 km)

UHF Channels		
Co-channel, DTV to DTV		
	Zone I	122 miles (196.3 km)
	Zone II & III	139 miles (223.7 km)
Co-channel, DTV to NTSC		
	Zone I	135 miles (217.3 km)
	Zone II & III	152 miles (244.6 km)
Adjacent Channel		
DTV to DTV		No allotments permitted between:
	All Zones	20 miles (32.2 km) and 55 miles (88.5 km)
DTV to NTSC		No allotments permitted between:
	All Zones	6 miles (9.7 km) and 55 miles (88.5 km)
Taboo Channels, DTV to NTSC only (+/- 2, +/- 3, +/- 4, +/- 5, +/- 7, +/- 8, +/- 14 and +/- 15 channels)		No allotments permitted between:
	Zone I	15 miles (24.1 km) and 50 miles (80.5 km)
	Zone II & III	15 miles (24.1 km) and 60 miles (96.6 km)

99. Engineering Criteria Approach. To satisfy the engineering allotment criteria, the petitioner would have to show that a station operating at the maximum permissible ERP and antenna height on the proposed allotment would not exceed the engineering interference criteria with regard to any other existing allotment. The engineering criteria would be specified in terms of desired-to-undesired signal ratios and would include consideration of potential interference to a station operating on the proposed allotment as well as potential interference from a station operating on the allotment to stations operating on other allotments. All evaluations of interference would be made under that assumption that stations on the allotments involved would be operating at the maximum allowed power and antenna height. We would use the same propagation models, technical planning factors and DTV system performance characteristics in performing engineering evaluations of interference that

we used in developing our proposals for the DTV Table and allotment spacing criteria.[101] The engineering evaluations would therefore examine possible interference between DTV service and between DTV and NTSC service on channels 2, 3, 4, 5, 7, 8, 14, and 15 channels removed from the channel under evaluation. We request comment all aspects of this alternative proposal for assessing the technical acceptability of additions or changes to the DTV Table of Allotments. We will also consider additional proposals for the standards by which we will assess the technical acceptability of requests for changes to the DTV Table. Such proposals should be accompanied by a description of how interference would be managed between stations, and include supporting technical analysis and data.

100. Use of Frequency Coordinators. Broadcasters have suggested that the Commission establish industry assignment coordinating committees to evaluate proposals for post-assignment changes to the table.[102] They state that evaluating and accommodating proposed changes to the DTV Table is a complex and technically challenging matter and that the current allotment /assignment processes are too cumbersome and litigious for this new DTV environment. They state that the Commission has used frequency coordinating committees in other areas and that they have proven to be effective. As proposed, the assignment coordinating committees would use objective engineering criteria to evaluate proposals for post-assignment changes to the DTV Table; and, would be funded by licensee contributions. The assignment coordinators would make recommendations to the Commission about how to dispose of allotment/assignment proposals or would provide the Commission with the detailed coverage and interference data necessary to make these decisions.

101. We agree that an industry coordination process could be used effectively in the digital television broadcast area. Such committees could conserve the Commission's limited resources and could provide an efficient and effective means to resolve disputes that may arise with regard to proposed changes to the DTV Table of Allotments. We believe that having a coordinating committee evaluate proposed changes and resolve potential disputes among broadcasters prior to submission of such changes to the Commission may be appropriate. Given the dynamic changes that are likely to occur during the transition from NTSC to DTV, such a pre-coordination process by an industry assignment coordinating committee could provide for a smoother and more orderly processing of such changes by the Commission. We therefore invite industry to pursue the establishment of such a coordinating committee. We tentatively propose that such a committee would evaluate and provide advice to the Commission with regard to coordination of changes in allotments; the creation of new allotments; and, changes in authorized facilities (for both NTSC and DTV stations) that would impact other allotments/assignments. We invite comment on all aspects of this proposal. We also solicit comment on whether any statutory changes would be appropriate to facilitate our use of such committees.[103]

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[101] The propagation models, technical planning factors and ATSC DTV system performance characteristics are presented in Appendix A.

[102] See for example, MSTV filing in this proceeding submitted, January 13, 1995.

[103] See for example, 47 U.S.C. 332 (b).

102. The proposed new service replication allotment methodology will, like our former proposal, result in a number of DTV allotments that are at distances to other DTV allotments and existing stations that are less than our proposed spacing standards. While such "short-spaced" or non-conforming allotments are necessary to achieve our full accommodation objective, we continue to believe that it is desirable to minimize the use of short-spacing and its effect on neighboring stations. We therefore are maintaining our proposal to make short-spaced or non-conforming allotments only during the initial assignment phase for existing stations, so that subsequent additions to the DTV Table for stations to be operated by new applicants would be required to comply with the minimum spacing or engineering requirements. We are also maintaining our proposal to delete all short-spaced allotments that have not been activated by an eligible broadcaster after the initial application period. For purposes of this proposal, an allotment would be considered short-spaced if it does not meet the spacing standards or engineering criteria for new DTV allotments. We request comment on this proposal. Interested parties are specifically asked to comment on the effect our proposal to delete short-spaced allotments would have on opportunities for new digital TV broadcast stations after the initial application period or after the transition.

VIII. PROCEDURAL MATTERS

103. This action is being taken pursuant to authority contained in Sections 4(i), 7, 301, 302, 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157, 301, 302, 303 and 307. This is a non-restricted notice and comment rule making proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules. See generally 47 CFR Sections 1.1202, 1.1203, and 1.1206(a).

104. Initial Regulatory Flexibility Analysis. As required by Section 603 of the Regulatory Flexibility Act,[104] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix C. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the Further Notice, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis.

105. Submission of Comments. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 CFR Sections 1.415 and 1.419, interested parties may file comments on or before November 22, 1996, and reply comments on or before December 23, 1996. To file formally in this proceeding, you must file an original and five copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to Office of the Secretary,

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[104] 5 U.S.C. §603.

Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, Room 239, 1919 M Street, N.W., Washington, D.C. 20554. You may also file comments electronically via the internet at dtvallotments@fcc.gov.

IX. ORDERING CLAUSES

106. In accordance with the proposals and actions described herein, IT IS ORDERED, THAT the Commission WILL NOT ACCEPT additional applications for new NTSC stations that are filed after 30 days from the date of publication of this Further Notice in the Federal Register. The Commission will continue to process applications for new NTSC stations that are currently on file and any new such applications that are filed on or before 30 days from the date of publication of this Further Notice in the Federal Register in accordance with procedures and standards indicated herein. In addition, IT IS ORDERED THAT, effective immediately as of the close of business on the date of adoption of this Further Notice, the Commission WILL NOT ACCEPT any additional Petitions for Rule Making proposing to amend the existing TV Table of Allotments in Section 73.606(b) of its rules to add an allotment for a new NTSC station. IT IS FURTHER ORDERED THAT, effective immediately as of the close of business on the date of adoption of this Further Notice, the Commission WILL CONDITION the grant of any modifications of the technical parameters of existing full service NTSC stations on the outcome of this rule making proceeding.

107. For further information regarding this Notice of Proposed Rule Making, please send an electronic mail message via the internet to dtvallotments@fcc.gov, or contact Bruce Franca or Alan Stillwell, Office of Engineering and Technology, at (202) 418-2470.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

APPENDIX A
TECHNICAL DATA

I. System Independent Planning Factors Recommended by the Advisory Committee

Planning Factor	Low VHF	High VHF	UHF
Geometric mean frequency (MHz)	69	194	615
Dipole factor (dBm-dBu) dB (K_d)	-111.8	-120.8	-130.8
Thermal noise (dBm) (N_t)	-106.2	-106.2	-106.2
Antenna Gain (dB) (G)	4	6	10
Downlead line loss for 50 ft. (15 m.) of coax (dB) (L)	1	2	4
Front-to-back ratio (dB) (ratio of forward gain to maximum response over rear 180°)	10*	12*	14*
Receiver noise figure (dB) (N_R)	5**	5**	10**
Time probability factor for 90% availability (dB) (dT)	***	***	***
Location probability for (dL) 50% availability (dB)	0	0	0

* For the receiving antenna manufacturer's objectives the values are 14, 16, and 20.

** Possible changes in the VHF figures are still under consideration.

*** The time probability factor is defined as the difference F(50,10) minus F(50,50), where these two values are determined from the FCC charts in Section 73.699. This factor is a function of the distance between the transmitting and receiving antennas.

See "Fifth Interim Report of the Planning Subcommittee of the FCC Advisory Committee on Advanced Television Service," March, 1992

II. ATSC DTV System Performance Capabilities

See "Final Technical Report," prepared by the Technical Subgroup of the FCC Advisory Committee on Advanced Television Service, October 30, 1995. The values tabulated are the results of tests of the Grand Alliance system, except those marked with an asterisk. Estimates marked with "*" were made for the purpose of evaluating service and interference. Measurement data for these factors were not taken for the Grand Alliance DTV system. These estimates are based on measurements of the four DTV systems that preceeded the Grand Alliance system.

Parameter	Measured Value (dB)
Carrier-to-Noise Ratio	+15.19
Co-channel D/U Ratio	
DTV-into-NTSC	+34.44
NTSC-into-DTV	+1.81
DTV-into-DTV	+15.27
Adjacent D/U Ratio	
Lower DTV-into-NTSC	-17.43
Upper DTV-into-NTSC	-11.95
Lower NTSC-into-DTV	-47.73
Upper NTSC-into-DTV	-48.71
Lower DTV-into-DTV	-41.98
Upper DTV-into-DTV	-43.17
Taboo D/U Ratio, DTV-into-NTSC	
N-2	-23.73
N+2	-27.93
N-3	-29.73
N+3	-34.13
N-4	-34.00 *
N+4	-24.96
N-7	-35.00 *
N+7	-34.00 *
N-8	-31.62
N+8	-43.22
N+14	-33.38
N+15	-30.58
Taboo D/U Ratio, NTSC-into-DTV	
N-2	-62.45
N+2	-59.86
N-3	< -61.79
N+3	< -62.49

N-4		-58.00 *

Taboo D/U Ratio, NTSC-into-DTV (continued)

N+4		-58.00 *
N-7		-58.00 *
N+7		-58.00 *
N-8		-58.00 *
N+8		-58.00 *
N+14		-58.00 *
N+15		-58.00 *

Taboo D/U Ratio, DTV-into-DTV

N-2		-60.52
N+2		-59.13
N-3	<	-60.61
N+3	<	-61.53
N-4		-58.00 *
N+4		-62.00 *
N-7		-63.00 *
N+7		-63.00 *
N-8		-63.00 *
N+8		-63.00 *
N+14		-63.00 *
N+15		-63.00 *

APPENDIX B

DRAFT DTV TABLE OF ALLOTMENTS

This appendix presents the draft DTV Table of Allotments. We emphasize that this table may differ significantly from the final DTV Table, depending on which principles are ultimately used to generate the table and the results of any broadcaster negotiated settlements. The table allots a DTV channel to each eligible existing broadcaster, with eligibility determined by the proposed allotment principles, and existence established by presence in the FCC TV Engineering Data Base dated May 13, 1996. Technical parameters needed for calculation of the tabulated engineering quantities were taken from the same engineering data base.

ERP and Antenna Height

The tabulated value of effective radiated power (ERP) for DTV operation was calculated to replicate NTSC coverage. It is the maximum, over a set of uniformly spaced compass directions, of the ERP values required to extend noise-limited DTV coverage as far as the grade B contour of the NTSC station. This maximum is shown in the column entitled "DTV POWER."

To determine the ERP that will approximately replicate NTSC coverage in each specific direction, the distance to the existing grade B contour was first determined from information in the engineering data base, including directional antenna data, and from terrain elevation data at points separated by 3 arc-seconds of longitude and latitude. FCC curves (47 CFR §73.699) were applied in the usual way, as described in 47 CFR §73.684, to find this grade B contour distance. The replicating ERP for DTV was then calculated by a further application of FCC curves, with noise-limited DTV coverage defined as the presence of field strengths of 26.8, 31.8 and 43.8 dBμ respectively for low VHF, high VHF and UHF, at 50% of locations and 90% of the time. The specified field strengths can be calculated from the data given in Appendix A. They include an allowance of 4 dB (lowband VHF) and 1 dB (highband VHF) for electrical noise external to TV receivers.

The column entitled "ANTENNA HEIGHT" gives the height of the transmitting antenna above average terrain as found in the engineering data base for the particular station. This value represents the height above terrain of the radiation center of the station being replicated, averaged from 3.2 to 16.1 kilometers (2 to 10 miles) over 8 evenly spaced radials. In a few cases, the value found in the engineering data base is unrealistically low or negative, and the height above ground or other reasonable value has been substituted.

Evaluation of Service and Interference - Digital Television During Transition

Under the heading "DIGITAL TELEVISION SERVICE DURING TRANSITION," prospective conditions are evaluated in terms of both area and population. The values tabulated under this heading are net values: service area is the area where the desired signal is

above the DTV noise threshold less the area where service receives interference from other DTV or NTSC stations. Similarly, the number of people served is the population receiving an adequate signal relative to noise excluding people in areas with interference.

Levels of interference are calculated as desired-to-undesired (D/U) ratios, and these levels must be above certain threshold values for acceptable service. The threshold values used to prepare the table in this appendix are those tabulated for the Grand Alliance System in Appendix A.

The procedure used to identify areas of service and interference is the following:

- Elements of area in a large rectangle centered at the desired transmitter are examined to determine whether the propagated signal is above the noise level for reception. The elemental areas are 1 square kilometer in size. Propagation predictions are made using the Longley-Rice point-to-point propagation model Version 1.2.2 taking into consideration the station's directional transmitting antenna, if any, and the transmitting antenna's height above average terrain along the pertinent radial. The desired signal is set equal to the value predicted for 50% of locations, 90% of the time.

- If the element of area has an adequate signal, the interfering signal levels from neighboring stations are similarly evaluated with Longley-Rice. Interfering signals are set equal to the values predicted for 50% of locations and 10% of the time so that we will be making a worst-case comparison.

- Finally, if the undesired signal arrives off-axis, it is reduced by an amount determined by a gain pattern assumed for the receiving system antenna.

Computer code for the Longley-Rice point-to-point radio propagation model is published in an appendix of NTIA Report 82-100, *A Guide to the Use of the ITS Irregular Terrain Model in the Area Prediction Mode,* authors G.A. Hufford, A.G. Longley and W.A. Kissick, U.S. Department of Commerce, April 1982. Some modifications to the code were described by G.A. Hufford in a memorandum to users of the model dated January 30, 1985. With these modifications, the code is referred to as Version 1.2.2 of the Longley-Rice model.

Evaluation of Service and Interference - Existing NTSC

Under the heading "EXISTING NTSC," current conditions in NTSC services are evaluated along with the effects of new interference from DTV. Calculations of new interference assume that all DTV stations in the allotment table come on the air. The additional interference is evaluated in terms of both area and population with results expressed as percentages of the area and population inside the respective grade B contours.

The areas tabulated under the subheading "SERVICE," are net values calculated by subtracting areas receiving interference from the area inside each station's grade B contour. Here the only interference under consideration is that from other NTSC stations actually on

the air. Similarly, the number of people currently served is the population inside the grade B contour less the number of people in interference areas.

The effects of introducing DTV, evaluated as percentages of the reference conditions, are presented under the subheading "INTERFERENCE." Interference issues are discussed in the Further Notice at paragraphs 33, 40-41.

The procedure used to identify areas of service and interference for NTSC is the same as outlined for DTV with the following changes due to the change in type of desired station:

- In each element of area, the desired signal level is set equal to the value predicted for median conditions, that is, 50% of both locations and time by the Longley-Rice model. (50% of locations, 90% of time was used in the procedure outlined for DTV.) Elements of area are dropped from consideration if this desired signal level falls below the values established for NTSC grade B field strength contours in 47 CFR §73.683 (these are 47, 56 and 64 dBμ respectively in the low VHF, high VHF and UHF bands).

- Interference between VHF NTSC stations is deemed to exist when the D/U ratio falls below the threshold values of -3 dB, 28 dB and -13 dB respectively for lower adjacent, co-channel and upper adjacent channel relationships. For example, the most favorable ratio of the three, -13 dB, applies if the desired station is on channel 7 and the interference is on channel 8.

- Interference between UHF NTSC stations on co- and adjacent channels is determined by the same D/U ratios used for VHF, and the criteria used for taboo channel interference are presented below.

Taboo Channel Relationship	NTSC-NTSC D/U Ratio (dB)
-2	-26.0
-3	-33.0
-7	-30.0
-8	-32.0

Taboo Channel Relationship	NTSC-NTSC D/U Ratio (dB)
+2	-29.0
+3	-34.0
+4	-23.0
+7	-33.0
+8	-41.0
+14	-25.0
+15	-9.0

The NTSC-to-NTSC ratios used for interference evaluation were determined by FCC staff observers at the Advanced TV Test Center during the tests of digital systems. All values are threshold-of-visibility (TOV) observations, except the co-channel value of 28 dB which is the precise offset value corresponding to impairment rating 3 according to the Advanced TV Evaluation Laboratory in Canada. No observations were made for channel differences of -5, -4 and +5, and no calculations were made for these taboos when evaluating NTSC-to-NTSC interference.

Percentage Match

A single column under the heading “DTV / NTSC AREA MATCH” shows the degree to which the allotment table has succeeded in providing each NTSC station with a DTV channel for replication of service during the transition. The area which will receive DTV service is divided by the area now served by the NTSC channel, and the result is presented as a percentage. This percentage is never larger than 100% because DTV service areas outside the current grade B are ignored in this view of the consequences of the table. The areas receiving NTSC and DTV service are determined by subtracting interference areas from the area inside the NTSC station's grade B contour in the same way as service and interference are determined for the preceding columns.

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
AK ANCHORAGE	2	51	5011.9	219.0	28607	265	28907	265	0.0	0.0	99.0
AK ANCHORAGE	4	23	478.6	55.0	10968	256	10912	256	0.0	0.0	100.0
AK ANCHORAGE	5	21	4897.8	250.0	30785	266	30730	266	0.0	0.0	100.0
AK ANCHORAGE	7	16	1258.9	238.0	22498	264	22456	265	0.0	0.0	100.0
AK ANCHORAGE	9	15	436.5	366.0	22176	265	22184	265	0.0	0.0	100.0
AK ANCHORAGE	11	14	79.4	91.0	10270	250	10259	250	0.0	0.0	99.9
AK ANCHORAGE	13	17	2511.9	238.0	26028	265	25978	265	0.0	0.0	100.0
AK ANCHORAGE	33	32	0.3	160.9	1208	212	1175	212	0.0	0.0	100.0
AK BETHEL	4	16	8.5	61.0	5648	7	5629	7	0.0	0.0	100.0
AK DILLINGHAM	2	11	16.2	305.0	33890	4	33677	4	0.0	0.0	100.0
AK FAIRBANKS	2	44	123.0	200.0	6744	77	6670	77	0.0	0.0	100.0
AK FAIRBANKS	9	5	1.1	152.0	13637	78	13637	78	0.0	0.0	100.0
AK FAIRBANKS	11	13	0.4	51.2	4966	76	4966	76	0.0	0.0	100.0
AK JUNEAU	3	34	1.3	78.9	2195	27	2155	27	0.0	0.0	100.0
AK JUNEAU	8	9	0.1	33.0	3096	27	771	25	0.0	0.0	100.0
AK KETCHIKAN	9	17	436.5	366.0	22177	17	22184	17	0.0	0.0	100.0
AK NORTH POLE	4	28	436.5	485.0	30801	79	30801	79	0.0	0.0	100.0
AK SITKA	13	4	0.1	47.2	2148	8	1132	8	0.0	0.0	100.0
AL ANNISTON	40	32	50.0	268.0	11669	378	10175	341	6.9	4.1	99.4
AL BESSEMER	17	28	50.0	266.0	11776	230	11231	217	2.4	1.1	100.0
AL BIRMINGHAM	6	50	3259.4	420.0	36695	1617	34673	1552	0.0	0.0	96.9
AL BIRMINGHAM	10	11	6.7	404.0	29996	1453	28693	1431	0.3	0.3	98.3
AL BIRMINGHAM	13	55	1543.3	408.0	33313	1557	29388	1466	0.0	0.0	100.0
AL BIRMINGHAM	42	30	127.6	421.0	22518	1240	21298	1212	6.2	4.8	99.8
AL BIRMINGHAM	68	46	66.9	314.0	16145	1087	15107	1046	0.0	0.0	100.0
AL DEMOPOLIS	41	40	101.5	333.0	15658	122	15551	122	2.3	2.7	100.0
AL DOTHAN	4	39	3917.7	573.0	49542	827	44737	767	0.0	0.0	99.9
AL DOTHAN	18	24	50.0	223.0	12995	280	12953	280	4.6	1.7	100.0
AL DOZIER	2	48	5000.0	210.0	27038	479	22027	298	0.0	0.0	100.0
AL FLORENCE	15	18	69.0	223.0	11962	260	11868	259	1.6	0.8	100.0
AL FLORENCE	26	22	50.0	230.0	11631	250	10822	237	1.3	0.7	100.0
AL FLORENCE	36	20	50.0	221.0	12478	261	12231	259	0.5	0.1	100.0
AL GADSDEN	44	17	79.7	303.0	13141	620	12307	532	2.4	1.6	99.4
AL GADSDEN	60	38	364.1	352.0	16145	1194	15315	1165	1.0	0.9	100.0
AL HOMEWOOD	21	14	50.0	408.0	19022	1180	18302	1083	0.9	0.4	99.5
AL HUNTSVILLE	19	57	68.0	533.0	22865	824	22461	811	0.4	0.2	99.9
AL HUNTSVILLE	25	24	56.3	352.0	17395	692	16731	676	0.7	0.3	100.0
AL HUNTSVILLE	31	29	56.4	546.0	22523	820	21667	798	2.6	2.8	99.7
AL HUNTSVILLE	48	27	60.5	579.0	23851	856	22563	819	1.8	1.7	100.0
AL HUNTSVILLE	54	34	141.6	515.0	20515	743	19681	725	2.0	1.2	99.8
AL LOUISVILLE	43	42	334.8	275.0	14970	270	15003	270	2.1	0.5	99.6

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
AL MOBILE	5	47	3917.7	581.0	49343	1306	49322	1309	0.0	0.0	99.4
AL MOBILE	10	9	6.3	381.0	31924	1010	30550	998	0.0	0.0	100.0

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AL MOBILE	15	26	411.9	521.0	23245	984	23125	984	3.3	4.9	100.0
AL MOBILE	21	17	50.0	436.0	16080	818	16045	816	0.6	0.2	100.0
AL MOBILE	42	41	50.0	183.0	11879	549	11674	540	0.8	0.2	100.0
AL MONTGOMERY	12	16	1751.9	610.0	45198	920	41793	863	0.0	0.0	100.0
AL MONTGOMERY	20	36	50.0	226.0	11994	358	11783	357	2.0	0.5	99.7
AL MONTGOMERY	26	25	52.2	183.0	12513	370	12465	369	0.9	0.2	99.8
AL MONTGOMERY	32	31	365.7	545.0	28376	528	28051	526	3.8	4.1	100.0
AL MONTGOMERY	45	53	50.0	308.0	12435	370	12183	368	0.4	0.1	100.0
AL MOUNT CHEAHA	7	52	1780.8	610.0	43162	1984	38412	1739	0.2	0.1	99.8
AL OPELIKA	66	18	50.0	207.0	11787	483	11201	473	0.0	0.0	99.8
AL OZARK	34	23	50.0	142.0	8730	227	8681	226	1.3	0.6	99.9
AL SELMA	8	29	1588.6	515.0	40428	674	35703	626	4.0	3.8	100.0
AL TROY	67	51	65.5	592.0	20443	454	19953	452	0.0	0.0	99.2
AL TUSCALOOSA	33	39	50.0	165.0	11004	278	10618	274	5.2	9.6	99.9
AL TUSKEGEE	22	15	415.5	610.0	34650	1138	31996	1016	0.3	0.1	99.2
AR ARKADELPHIA	9	15	1541.1	326.0	29266	375	24604	317	0.0	0.0	100.0
AR EL DORADO	10	28	1757.2	605.0	45253	663	31775	510	0.0	0.0	100.0
AR FAYETTEVILLE	13	18	1726.2	506.0	37446	718	31585	634	0.0	0.0	100.0
AR FAYETTEVILLE	29	28	62.1	270.0	13768	285	13254	281	2.8	1.3	99.9
AR FORT SMITH	5	46	4017.2	384.0	30929	586	29032	537	0.0	0.0	97.3
AR FORT SMITH	24	17	153.8	317.0	13619	370	13979	383	1.7	3.0	93.6
AR FORT SMITH	40	39	224.5	610.0	21407	307	19467	290	1.3	0.4	99.8
AR HOT SPRINGS	26	27	374.9	275.0	15191	412	13630	223	1.4	0.3	100.0
AR JONESBORO	8	35	1593.1	533.0	41047	675	37003	625	0.7	2.1	99.7
AR JONESBORO	19	20	53.1	311.0	16315	226	16275	226	1.9	0.6	100.0
AR JONESBORO	48	49	115.9	305.0	18169	265	18032	262	1.4	0.5	100.0
AR LITTLE ROCK	2	32	3883.7	543.0	46831	1003	39788	960	0.0	0.0	99.7
AR LITTLE ROCK	4	47	3776.4	503.0	44402	1006	41814	978	0.0	0.0	99.2
AR LITTLE ROCK	7	22	1740.2	591.0	43593	974	40044	946	0.0	0.0	100.0
AR LITTLE ROCK	11	12	8.2	521.0	38769	956	35554	923	0.0	0.0	99.9
AR LITTLE ROCK	16	19	412.8	539.0	26931	875	26516	867	3.4	1.4	99.4
AR LITTLE ROCK	42	41	270.0	156.0	14820	607	14743	606	4.8	3.9	99.1
AR MOUNTAIN VIEW	6	45	3600.4	424.0	39050	549	31332	362	0.0	0.0	99.5
AR NEWARK	17	26	50.0	162.0	3697	54	3506	51	0.9	0.3	100.0
AR PINE BLUFF	25	14	227.7	182.0	11316	578	10622	568	0.1	0.0	100.0
AR PINE BLUFF	38	30	386.9	593.0	26243	804	25438	788	0.7	1.1	100.0
AR ROGERS	51	52	50.0	143.0	6975	231	6424	224	0.0	0.0	100.0
AZ FLAGSTAFF	2	49	3860.6	488.0	36662	165	40825	196	0.0	0.0	89.5
AZ FLAGSTAFF	4	36	5000.0	115.0	15123	81	13801	83	0.0	0.0	93.6
AZ FLAGSTAFF	13	16	1568.5	474.0	30513	157	27353	128	0.0	0.0	100.0
AZ GREEN VALLEY	46	47	414.6	618.0	24697	734	21206	721	0.5	0.0	99.5

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AZ KINGMAN	6	47	4496.1	585.0	30677	116	37599	113	0.0	0.0	78.5
AZ MESA	12	25	1676.3	543.0	33522	2225	31187	2221	0.0	0.0	99.9

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AZ NOGALES	11	14	1635.2	507.0	27461	682	24894	681	0.0	0.0	99.7
AZ PHOENIX	3	29	3913.7	542.0	38362	2234	40185	2234	0.0	0.0	92.7
AZ PHOENIX	5	42	3910.9	539.0	37353	2231	39713	2234	0.0	0.0	92.1
AZ PHOENIX	8	17	1674.0	536.0	33879	2225	31886	2223	0.0	0.0	99.8
AZ PHOENIX	10	24	1712.2	558.0	34073	2225	31756	2215	0.0	0.0	99.8
AZ PHOENIX	15	23	50.0	521.0	15884	2198	15087	2181	1.9	1.1	100.0
AZ PHOENIX	21	22	67.1	489.0	18262	2207	17454	2202	0.5	0.3	100.0
AZ PHOENIX	33	32	145.1	521.0	18021	2199	17342	2192	0.0	0.0	100.0
AZ PHOENIX	45	44	186.8	545.0	23272	2218	21166	2183	0.0	0.0	100.0
AZ PHOENIX	61	35	164.4	541.0	20560	2217	19301	2205	0.0	0.0	100.0
AZ PRESCOTT	7	14	50.0	856.0	18520	165	17194	133	0.0	0.0	99.8
AZ TOLLESON	51	52	413.1	535.0	26057	2220	24325	2216	0.0	0.0	100.0
AZ TUCSON	4	31	1061.0	1100.0	40650	702	47824	813	0.0	0.0	81.1
AZ TUCSON	6	48	1091.6	1106.0	38527	671	40390	738	0.0	0.0	86.4
AZ TUCSON	9	20	472.5	1134.0	36033	696	34008	704	0.0	0.0	98.9
AZ TUCSON	13	16	1687.3	622.0	33525	767	26960	732	0.0	0.0	100.0
AZ TUCSON	18	19	167.3	600.0	18412	690	16824	685	1.2	0.1	99.5
AZ TUCSON	27	26	50.0	175.0	3377	626	2943	618	1.3	0.1	100.0
AZ TUCSON	40	41	89.5	619.0	15813	673	15008	672	0.0	0.0	100.0
AZ YUMA	11	19	1735.1	493.0	35290	233	33386	232	0.0	0.0	100.0
AZ YUMA	13	16	1575.4	475.0	28335	231	26495	230	0.0	0.0	100.0
CA ANAHEIM	56	38	249.7	728.0	21850	12051	21220	11492	0.1	0.2	98.4
CA ARCATA	23	22	50.0	510.0	11327	111	10480	97	0.0	0.0	100.0
CA AVALON	54	31	417.2	372.0	27380	9257	25592	7179	0.0	0.1	100.0
CA BAKERSFIELD	17	54	374.6	427.0	16007	531	15854	499	0.1	0.1	99.7
CA BAKERSFIELD	23	31	132.2	1128.0	20337	568	19797	564	0.2	0.0	99.7
CA BAKERSFIELD	29	12	3.2	1137.0	19813	556	14498	466	0.1	0.0	100.0
CA BAKERSFIELD	45	42	411.0	404.0	16943	586	16480	540	0.2	0.0	100.0
CA BARSTOW	64	44	219.0	518.0	17278	677	16091	659	0.0	0.0	99.7
CA CERES	23	22	50.0	47.0	1417	346	1417	346	9.6	3.5	100.0
CA CHICO	12	15	3437.1	396.0	30475	570	29229	562	0.3	0.3	99.7
CA CHICO	24	4	1.0	564.0	23058	359	21026	347	0.6	3.4	100.0
CA CLOVIS	43	44	50.0	671.0	11710	935	11083	931	12.5	5.0	100.0
CA CONCORD	42	56	83.3	856.0	26830	6280	26656	6234	2.4	4.2	99.0
CA CORONA	52	15	167.3	896.0	18891	12437	18769	12125	8.3	1.5	96.3
CA COTATI	22	23	50.0	620.0	10454	1767	8448	1284	1.3	0.1	100.0
CA EL CENTRO	7	14	1637.1	389.0	23044	189	21853	189	0.0	0.0	100.0
CA EL CENTRO	9	18	1583.0	488.0	27713	229	26696	229	0.0	0.0	100.0
CA EUREKA	3	34	3874.8	503.0	31662	135	35305	139	0.0	0.0	89.6
CA EUREKA	6	49	5000.0	530.0	38788	138	42165	143	0.0	0.0	91.9
CA EUREKA	13	18	1724.6	515.0	30061	120	28745	119	0.0	0.0	100.0

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CA EUREKA	29	28	50.0	334.0	6207	95	5731	89	0.0	0.0	100.0
CA FORT BRAGG	8	11	6.6	746.0	28477	115	27092	94	0.0	0.0	99.9

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CA FRESNO	18	28	90.5	677.0	21234	1110	20990	1103	0.7	0.0	99.8
CA FRESNO	24	7	3.2	716.0	24064	1124	21459	1102	0.3	0.0	100.0
CA FRESNO	30	4	1.0	622.0	21770	1132	18908	1115	1.3	0.5	99.5
CA FRESNO	47	15	203.3	597.0	20365	1107	18692	1077	0.1	0.0	100.0
CA FRESNO	53	34	194.3	581.0	18484	1101	17906	1088	1.2	0.1	99.9
CA HANFORD	21	20	145.3	561.0	19041	1109	18511	1092	2.6	0.2	100.0
CA HUNTINGTON BEAC	50	49	375.3	330.0	10711	9167	10114	9085	0.6	1.2	99.6
CA LOS ANGELES	2	48	1122.2	1107.0	41312	13721	48789	14301	0.0	0.0	82.5
CA LOS ANGELES	4	32	1413.0	984.0	41465	13842	47533	14263	0.2	0.0	83.5
CA LOS ANGELES	5	33	1453.5	976.0	41775	13825	48131	14411	0.0	0.0	86.8
CA LOS ANGELES	7	53	662.7	978.0	32569	13256	34943	13573	0.2	0.0	92.6
CA LOS ANGELES	9	47	621.0	970.0	23999	12726	25075	12901	0.2	0.0	94.2
CA LOS ANGELES	11	59	825.2	896.0	33588	13244	34940	13524	0.0	0.0	94.5
CA LOS ANGELES	13	21	802.0	899.0	35865	13638	34365	13489	0.0	0.0	99.7
CA LOS ANGELES	22	60	194.0	889.0	16783	12197	16452	12102	7.5	1.2	99.7
CA LOS ANGELES	28	27	192.4	927.0	25295	12905	24117	12559	0.9	0.8	99.9
CA LOS ANGELES	34	35	134.1	896.0	22175	12599	21202	12358	1.3	1.7	99.9
CA LOS ANGELES	58	41	167.3	875.0	23955	12780	22184	12203	0.3	0.2	100.0
CA LOS ANGELES	68	36	173.8	878.0	24406	12723	22859	12321	0.3	0.4	100.0
CA MERCED	51	32	357.6	680.0	23326	1337	22344	1318	0.8	0.1	100.0
CA MODESTO	19	38	415.1	573.0	24581	2526	24938	2543	5.4	2.7	98.1
CA MONTEREY	46	41	84.7	771.0	17052	711	16500	692	0.4	0.6	99.9
CA MONTEREY	67	40	74.1	701.0	15334	1315	14251	756	0.0	0.0	99.8
CA NOVATO	68	35	417.2	431.0	23174	4184	21572	3883	6.5	4.3	98.8
CA OAKLAND	2	34	3548.7	479.0	35427	5881	36479	5954	0.0	0.0	94.0
CA ONTARIO	46	67	144.7	927.0	18728	12198	18317	12044	9.4	3.1	100.0
CA OXNARD	63	24	103.0	549.0	13369	2031	12352	1492	0.2	0.8	99.6
CA PALM SPRINGS	36	57	50.0	207.0	6142	270	5971	260	1.1	1.3	100.0
CA PALM SPRINGS	42	43	110.1	1087.0	15874	1219	14730	947	0.0	0.0	99.8
CA PARADISE	30	31	160.1	440.0	17051	342	16948	348	0.1	0.0	98.5
CA PORTERVILLE	61	50	213.6	811.0	24375	1395	23856	1354	0.0	0.0	99.9
CA RANCHO PALOS VE	44	45	410.7	451.0	18040	9283	16861	7046	0.1	0.2	100.0
CA REDDING	7	14	540.2	1103.0	35842	322	35585	322	0.0	0.0	99.1
CA REDDING	9	19	541.0	1097.0	35462	320	34970	318	0.0	0.0	99.4
CA RIVERSIDE	62	26	361.9	723.0	19400	11825	18502	11530	0.3	0.9	99.8
CA SACRAMENTO	3	33	3915.9	591.0	43582	4795	42119	4221	0.0	0.0	97.6
CA SACRAMENTO	6	45	3912.4	567.0	42159	4680	38510	4021	0.0	0.0	97.7
CA SACRAMENTO	10	59	1731.3	595.0	36687	4518	35767	4076	0.3	0.0	96.9
CA SACRAMENTO	29	14	333.4	321.0	12379	1546	12763	1564	0.7	0.2	95.7
CA SACRAMENTO	31	21	412.2	558.0	25953	3732	24988	3540	6.8	2.1	97.5
CA SACRAMENTO	40	53	408.7	597.0	25704	3733	25297	3427	2.0	0.5	98.0

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							CURRENT SERVICE		NEW INTERFERENCE		
					AREA (Sq km)	PEOPLE (thous)	AREA (Sq km)	PEOPLE (thous)	AREA (% NL Area)	PEOPLE (% NL Pop)	
CA SALINAS	8	43	778.9	896.0	28937	4714	26763	2870	0.0	0.0	92.5
CA SALINAS	35	31	146.5	735.0	17285	916	16564	745	1.4	0.1	99.9

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CA SAN BERNARDINO	18	19	307.9	725.0	22712	12165	21882	11777	0.5	0.2	99.9
CA SAN BERNARDINO	24	25	73.9	509.0	13793	7746	12677	5352	2.5	9.9	100.0
CA SAN BERNARDINO	30	55	72.0	713.0	19025	11812	18423	11416	1.2	0.3	100.0
CA SAN DIEGO	8	23	3209.3	226.0	24913	2737	23563	2663	0.0	0.0	100.0
CA SAN DIEGO	10	29	2024.8	229.0	20929	2686	20069	2632	0.0	0.0	100.0
CA SAN DIEGO	15	17	218.2	613.0	22022	2535	21403	2505	15.6	1.9	100.0
CA SAN DIEGO	39	40	175.9	577.0	21034	2460	20840	2328	0.0	0.0	97.8
CA SAN DIEGO	51	52	209.3	579.0	21092	2467	21182	2424	0.4	2.7	97.1
CA SAN DIEGO	69	46	399.6	594.0	20655	2530	20238	2475	0.0	0.0	97.9
CA SAN FRANCISCO	4	18	3812.9	512.0	41007	6515	37369	5896	0.6	0.1	97.0
CA SAN FRANCISCO	5	28	3770.3	506.0	40251	6474	37367	5960	0.0	0.0	96.8
CA SAN FRANCISCO	7	61	1589.9	509.0	33669	5813	31937	5854	0.6	0.7	97.3
CA SAN FRANCISCO	9	57	1591.3	509.0	33320	5823	30024	5414	0.1	0.0	99.2
CA SAN FRANCISCO	14	15	163.7	381.0	19124	5188	18347	5099	3.0	4.0	99.0
CA SAN FRANCISCO	20	24	255.2	472.0	18623	5486	17073	5287	4.2	3.6	99.8
CA SAN FRANCISCO	26	27	161.1	421.0	15339	5121	14169	4936	1.2	2.0	98.8
CA SAN FRANCISCO	32	30	68.8	491.0	15024	5175	13512	4814	1.7	1.1	99.9
CA SAN FRANCISCO	38	39	406.2	440.0	17528	5258	15252	4756	2.3	1.2	99.9
CA SAN FRANCISCO	44	19	400.8	491.0	17342	5297	15785	4877	0.7	0.2	99.0
CA SAN JOSE	11	12	3.2	844.0	33502	5477	29610	4961	0.0	0.0	99.4
CA SAN JOSE	36	55	352.4	686.0	16496	5319	14377	5059	5.5	4.6	99.7
CA SAN JOSE	48	49	390.9	631.0	15387	5019	13687	4833	0.4	0.6	99.8
CA SAN JOSE	54	47	50.0	585.0	9060	4686	7971	4308	4.0	2.5	99.8
CA SAN JOSE	65	50	268.0	812.0	18228	4583	17003	4464	0.0	0.1	99.4
CA SAN LUIS OBISPO	6	10	22.0	543.0	41616	401	41912	412	0.0	0.0	97.6
CA SAN LUIS OBISPO	33	19	50.0	440.0	6592	261	5464	246	0.4	7.5	100.0
CA SAN MATEO	60	29	241.9	362.0	13023	4804	12237	4673	9.0	4.3	98.2
CA SANGER	59	36	75.0	591.0	16211	853	15422	842	2.5	0.9	100.0
CA SANTA ANA	40	66	50.0	881.0	19238	12400	18469	12222	8.1	1.7	100.0
CA SANTA BARBARA	3	51	1673.4	917.0	42231	1158	46654	1290	0.0	0.0	88.5
CA SANTA BARBARA	38	22	185.9	887.0	23782	768	23378	763	4.0	4.1	97.9
CA SANTA MARIA	12	25	541.0	591.0	26470	377	25407	362	2.9	0.7	99.7
CA SANTA ROSA	50	41	50.0	939.0	19064	1173	14792	881	5.9	12.1	100.0
CA STOCKTON	13	69	1731.3	594.0	37187	4597	36195	4666	0.0	0.0	98.0
CA STOCKTON	58	25	411.9	559.0	24531	3759	23524	3462	2.4	3.2	99.9
CA STOCKTON	64	63	144.7	874.0	30567	6954	28321	6056	0.4	0.2	100.0
CA TWENTYNINE PALM	31	28	50.0	90.0	2937	41	2719	41	0.0	0.0	100.0
CA VALLEJO	66	51	255.9	466.0	14897	5268	13078	3890	0.0	0.0	98.1
CA VENTURA	57	43	370.2	530.0	16381	2891	14674	1760	0.0	0.0	99.8
CA VISALIA	26	27	299.3	792.0	26345	1122	25565	1118	0.0	0.0	100.0
CA VISALIA	49	9	3.2	835.0	23246	1387	21185	1319	0.0	0.0	100.0

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CA WATSONVILLE	25	52	50.0	675.0	11802	1187	10965	718	1.0	0.3	100.0
CO BOULDER	14	15	154.5	351.0	15957	2041	15716	2037	0.7	0.2	99.6

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CO BROOMFIELD	12	17	2348.7	738.0	33128	2187	31016	2165	0.0	0.0	99.2
CO CASTLE ROCK	53	47	322.7	193.0	11801	1720	11208	1686	0.0	0.0	100.0
CO COLORADO SPRING	11	10	7.7	725.0	29797	831	26686	633	0.0	0.0	99.4
CO COLORADO SPRING	13	24	1174.7	652.0	30427	1592	24772	629	0.0	0.0	99.9
CO COLORADO SPRING	21	22	123.1	656.0	17744	555	16718	540	1.5	0.1	99.6
CO DENVER	2	44	5000.0	319.0	29807	2272	31713	2314	0.0	0.0	92.3
CO DENVER	4	34	5000.0	451.0	33752	2304	32687	2327	0.0	0.0	92.4
CO DENVER	6	36	5000.0	292.0	28790	2257	27638	2149	0.0	0.0	95.5
CO DENVER	7	18	3437.7	308.0	26796	2256	25377	2207	0.0	0.0	99.0
CO DENVER	9	16	3435.0	280.0	26167	2246	23896	2193	0.0	0.0	99.1
CO DENVER	20	19	414.6	383.0	18502	2068	17524	2020	1.3	0.7	99.6
CO DENVER	31	30	414.4	317.0	16887	2044	16466	2033	0.2	0.0	99.8
CO DENVER	41	42	148.1	344.0	12440	1886	12336	1882	1.1	2.6	99.6
CO DENVER	50	49	165.3	233.0	12910	1878	12482	1866	0.2	0.0	100.0
CO DENVER	59	35	269.4	96.0	7786	1770	7899	1800	0.0	0.0	96.4
CO DURANGO	6	26	97.6	110.0	8152	63	9311	65	0.0	0.0	87.3
CO FORT COLLINS	22	21	76.5	256.0	13277	434	13063	418	0.5	0.1	100.0
CO GLENWOOD SPRING	3	45	2301.6	771.0	25413	67	31999	87	0.0	0.0	77.9
CO GRAND JUNCTION	5	48	155.9	33.0	5271	91	6731	92	0.0	0.0	78.3
CO GRAND JUNCTION	8	7	3.7	829.0	32053	144	26318	115	0.0	0.0	100.0
CO LONGMONT	25	26	368.8	332.0	14412	2126	14261	2125	0.5	0.3	99.9
CO MONTROSE	10	13	3.2	33.0	4907	33	4544	33	0.0	0.0	100.0
CO PUEBLO	5	39	3554.3	396.0	32684	592	32241	584	0.0	0.0	93.6
CO PUEBLO	8	23	891.9	727.0	30728	1466	26061	620	0.0	0.0	99.7
CO STEAMBOAT SPRIN	24	14	50.0	157.0	1629	11	1369	11	0.0	0.0	100.0
CO STERLING	3	40	3737.2	232.0	26452	71	22909	61	0.0	0.0	100.0
CT BRIDGEPORT	43	6	1.0	156.0	10675	2970	10148	2788	14.0	17.5	97.7
CT BRIDGEPORT	49	12	3.2	222.0	11690	3937	10220	3330	13.3	17.6	99.9
CT HARTFORD	3	35	5000.0	276.0	28407	4413	25124	3891	0.0	0.0	98.6
CT HARTFORD	18	9	3.2	299.0	16657	2916	16220	2972	17.6	14.1	91.1
CT HARTFORD	24	63	50.0	262.0	12283	2707	11214	2569	2.7	5.7	99.6
CT HARTFORD	61	60	374.9	515.0	19346	3218	16485	2807	0.7	0.6	99.8
CT NEW BRITAIN	30	29	218.2	451.0	23658	4029	21908	3689	3.9	2.6	99.9
CT NEW HAVEN	8	16	1094.5	363.0	27098	6199	23521	4707	3.5	2.1	100.0
CT NEW HAVEN	59	46	170.7	314.0	18627	4310	17942	4081	8.6	13.5	98.5
CT NEW HAVEN	65	39	50.0	82.0	1807	635	1681	596	5.0	7.1	100.0
CT NEW LONDON	26	50	171.9	381.0	16747	2517	14885	1705	0.5	1.4	98.7
CT NORWICH	53	45	50.0	207.0	10906	1378	10247	856	1.9	3.4	97.1
CT WATERBURY	20	32	132.2	366.0	19589	4466	17631	3756	2.5	1.3	100.0
DC WASHINGTON	4	36	5000.0	237.0	28107	6605	24781	6451	7.0	3.3	98.6
DC WASHINGTON	5	30	5000.0	235.0	28271	6627	26776	6536	0.3	0.1	99.4

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DC WASHINGTON	7	33	3011.0	235.0	24473	6430	23217	6361	0.4	0.1	98.8
DC WASHINGTON	9	59	3011.0	235.0	24669	6433	22905	6314	0.0	0.0	99.8

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DC WASHINGTON	20	69	255.0	235.0	16706	5975	16076	5661	7.7	1.0	99.2
DC WASHINGTON	26	35	112.0	233.0	15035	5813	14883	5584	1.0	0.2	99.0
DC WASHINGTON	32	6	1.0	213.0	13524	5704	14056	5743	8.9	6.2	91.8
DC WASHINGTON	50	51	134.1	247.0	15733	5887	14818	5382	0.2	0.3	99.9
DE SEAFORD	64	44	50.0	195.0	4936	179	4936	179	28.7	27.5	100.0
DE WILMINGTON	12	36	2042.2	294.0	23295	7656	20471	6705	0.0	0.0	99.2
DE WILMINGTON	61	31	182.8	292.0	18352	5739	17618	5847	9.5	10.9	97.9
FL BOCA RATON	63	31	196.0	310.0	15547	3772	15472	3689	0.0	0.0	100.0
FL BRADENTON	66	23	138.7	465.0	20900	2610	20802	2596	0.0	0.0	100.0
FL CAPE CORAL	36	35	415.8	450.0	24391	870	24203	867	0.4	0.1	100.0
FL CLEARWATER	22	59	405.6	433.0	19585	2479	19585	2479	0.5	0.2	100.0
FL CLERMONT	18	30	417.1	458.0	26202	2060	26212	2056	0.0	0.0	99.8
FL COCOA	52	49	340.5	285.0	14837	1508	15080	1535	0.1	0.2	97.8
FL COCOA	68	51	160.6	287.0	15085	1177	15069	1176	0.0	0.0	100.0
FL DAYTONA BEACH	2	31	3616.0	503.0	46241	2798	42118	2374	0.0	0.0	100.0
FL DAYTONA BEACH	26	32	158.5	304.0	15435	1123	13570	817	0.0	0.0	99.9
FL FORT LAUDERDALE	51	52	325.7	262.0	14271	3676	14271	3676	0.0	0.0	100.0
FL FORT MYERS	11	53	1552.1	451.0	37698	1147	35406	1033	0.3	0.0	100.0
FL FORT MYERS	20	55	415.7	451.0	22752	781	22752	781	0.0	0.0	100.0
FL FORT MYERS	30	15	55.5	293.0	16055	636	16000	636	0.8	0.4	100.0
FL FORT PIERCE	21	22	139.3	147.0	11003	428	10619	418	1.7	9.3	100.0
FL FORT PIERCE	34	16	416.2	454.0	24460	1347	23464	1059	0.0	0.0	100.0
FL FORT WALTON BEA	35	19	50.0	60.0	4594	153	4590	153	0.2	0.2	100.0
FL FORT WALTON BEA	53	38	150.2	219.0	13307	501	13302	501	1.8	0.7	100.0
FL FORT WALTON BEA	58	49	50.0	59.0	1385	108	1385	108	0.0	0.0	100.0
FL GAINESVILLE	5	42	4606.6	262.0	32472	1202	31956	1149	0.0	0.0	100.0
FL GAINESVILLE	20	28	158.1	287.0	15269	513	15284	513	4.3	3.8	99.9
FL HIGH SPRINGS	53	40	55.0	282.0	12029	411	11659	350	0.0	0.0	100.0
FL HOLLYWOOD	69	50	354.1	264.0	15617	3681	15592	3650	0.0	0.0	100.0
FL INVERNESS	64	34	239.2	414.0	25497	1153	24371	1092	0.0	0.0	100.0
FL JACKSONVILLE	4	33	4132.4	293.0	33334	1220	31966	1170	2.5	1.3	100.0
FL JACKSONVILLE	7	23	1913.6	277.0	27709	1087	26414	1083	0.1	0.0	100.0
FL JACKSONVILLE	12	13	5.5	296.0	27870	1084	27882	1090	1.0	0.6	98.9
FL JACKSONVILLE	17	16	340.5	304.0	19009	1019	19009	1019	0.0	0.0	100.0
FL JACKSONVILLE	30	14	164.4	302.0	15526	999	15526	999	1.1	0.4	100.0
FL JACKSONVILLE	47	10	3.2	299.0	19546	1028	19558	1028	3.8	2.3	99.9
FL JACKSONVILLE	59	38	188.7	289.0	15436	972	15436	972	0.0	0.0	100.0
FL KEY WEST	8	12	3.2	33.0	1456	34	1456	34	0.0	0.0	100.0
FL KEY WEST	22	3	1.0	62.0	1476	32	1476	32	0.0	0.0	100.0
FL LAKE WORTH	67	27	50.0	60.0	4593	773	4593	773	0.0	0.0	100.0
FL LAKELAND	32	33	175.5	331.0	15178	2004	15176	2004	3.4	2.7	100.0

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FL LEESBURG	45	46	261.3	138.0	12079	1435	11356	1429	0.4	0.7	100.0
FL LEESBURG	55	29	410.6	515.0	26345	2114	26136	2111	0.9	0.5	100.0

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FL LIVE OAK	57	18	72.2	145.0	8660	167	8660	167	0.1	3.6	100.0
FL MELBOURNE	43	4	1.0	299.0	15330	1545	15254	1541	0.2	0.0	100.0
FL MELBOURNE	56	62	104.0	305.0	13769	607	13162	580	0.0	0.0	100.0
FL MIAMI	2	47	4270.6	283.0	33149	3997	31733	3904	0.0	0.0	100.0
FL MIAMI	4	48	3962.5	304.0	34336	4012	34336	4012	0.0	0.0	100.0
FL MIAMI	6	41	3867.1	549.0	49213	3620	44296	2792	0.0	0.0	100.0
FL MIAMI	7	8	5.4	293.0	28498	3942	28498	3942	0.0	0.0	100.0
FL MIAMI	10	9	5.6	305.0	29086	3959	29070	3959	0.0	0.0	100.0
FL MIAMI	17	21	166.2	309.0	15323	3681	15325	3681	0.3	0.9	100.0
FL MIAMI	23	24	319.2	297.0	15044	3741	15045	3744	0.1	0.2	100.0
FL MIAMI	33	32	372.5	280.0	17477	3737	17165	3594	0.0	0.0	100.0
FL MIAMI	35	20	149.2	102.0	8037	2871	7474	2310	0.0	0.0	100.0
FL MIAMI	39	38	212.4	213.0	14047	3583	14045	3583	0.0	0.0	100.0
FL MIAMI	45	44	145.1	308.0	13275	3734	13274	3735	0.0	0.1	100.0
FL NAPLES	26	43	364.9	368.0	18758	611	18756	611	0.0	0.0	100.0
FL NAPLES	46	18	195.8	309.0	15240	564	15239	564	0.0	0.0	100.0
FL NEW SMYRNA BEAC	15	21	50.0	441.0	15513	1588	15510	1588	0.1	0.0	100.0
FL OCALA	51	11	3.2	280.0	15411	623	15400	623	0.0	0.0	100.0
FL ORANGE PARK	25	22	82.7	151.0	8650	937	8749	944	5.6	4.0	96.4
FL ORLANDO	6	48	3186.8	445.0	42111	2566	36809	2434	0.0	0.0	99.7
FL ORLANDO	9	58	1573.3	479.0	39037	2509	35519	2178	0.0	0.0	100.0
FL ORLANDO	24	20	57.9	381.0	19079	1874	19226	1893	0.3	0.1	99.1
FL ORLANDO	27	41	413.0	550.0	34097	3531	28612	3015	0.1	0.0	100.0
FL ORLANDO	35	36	166.9	451.0	21464	1947	21382	1946	0.0	0.0	100.0
FL ORLANDO	65	39	417.2	465.0	24425	2147	22429	2047	0.0	0.0	100.0
FL PALM BEACH	61	36	269.8	82.0	9822	1702	9774	1632	0.0	0.0	100.0
FL PANAMA CITY	7	8	5.2	265.0	26218	383	26203	374	0.0	0.0	98.7
FL PANAMA CITY	13	30	1544.8	437.0	35925	586	33744	509	0.0	0.0	100.0
FL PANAMA CITY	28	20	50.0	228.0	12152	207	12110	206	0.0	0.0	100.0
FL PANAMA CITY	56	22	50.0	155.0	11050	208	11031	205	0.0	0.0	100.0
FL PANAMA CITY BEA	46	14	50.0	59.0	1558	95	1558	95	0.0	0.0	100.0
FL PENSACOLA	3	50	3418.0	372.0	36548	1105	31234	940	0.0	0.0	100.0
FL PENSACOLA	23	27	133.5	149.0	10889	447	10797	452	0.2	2.0	99.9
FL PENSACOLA	33	32	239.1	415.0	18368	860	18318	860	0.8	0.1	99.8
FL PENSACOLA	44	45	239.5	454.0	19539	906	19454	905	0.0	0.0	100.0
FL SARASOTA	40	24	138.9	235.0	13484	2015	13025	1882	0.2	0.0	100.0
FL ST. PETERSBURG	10	19	1554.8	458.0	33393	2929	30879	2791	0.2	0.1	100.0
FL ST. PETERSBURG	38	25	71.6	438.0	21407	2920	21479	2920	2.0	0.4	99.6
FL ST. PETERSBURG	44	14	417.2	454.0	29149	3145	27597	3098	0.0	0.0	100.0
FL TALLAHASSEE	11	15	2855.6	232.0	25792	429	23088	386	0.0	0.0	100.0
FL TALLAHASSEE	27	26	50.0	262.0	14556	372	14405	371	0.2	0.2	100.0

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FL TALLAHASSEE	40	41	181.1	268.0	13907	363	13893	363	1.1	0.3	100.0
FL TAMPA	3	47	3366.4	473.0	43176	3702	39643	3244	0.0	0.0	99.5

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FL TAMPA	8	54	1572.5	471.0	38271	3517	35083	3220	0.1	0.0	100.0
FL TAMPA	13	12	6.8	433.0	34354	3353	35590	3386	2.3	0.4	96.5
FL TAMPA	16	17	77.0	308.0	15344	2727	15342	2727	0.4	0.2	100.0
FL TAMPA	28	57	175.2	471.0	25860	3041	21662	2884	0.1	0.0	100.0
FL TAMPA	50	7	3.2	445.0	27487	3091	23994	2950	0.0	0.0	100.0
FL TEQUESTA	25	40	416.0	453.0	21927	1347	21752	1215	0.1	0.0	100.0
FL TICE	49	5	1.0	312.0	15563	725	15604	719	0.0	0.0	96.8
FL VENICE	62	42	245.8	167.0	11743	721	11473	714	0.0	0.0	100.0
FL WEST PALM BEACH	5	19	3993.6	302.0	34359	4041	31469	2498	13.2	1.1	99.9
FL WEST PALM BEACH	12	13	5.6	299.0	29140	3711	27731	3707	0.0	0.0	99.9
FL WEST PALM BEACH	29	28	416.7	457.0	24165	3772	24154	3764	0.0	0.0	100.0
FL WEST PALM BEACH	42	59	125.9	439.0	19843	2486	19837	2478	0.0	0.0	100.0
GA ALBANY	10	52	1843.0	293.0	28528	594	25926	544	0.5	0.3	100.0
GA ALBANY	31	32	73.1	302.0	16855	390	16854	390	0.4	0.2	100.0
GA ATHENS	8	42	1607.8	326.0	29551	3375	26072	3258	0.2	0.0	100.0
GA ATHENS	34	25	394.9	440.0	22439	3051	21292	2813	0.4	0.1	100.0
GA ATLANTA	2	51	3962.0	316.0	33229	3535	29138	3381	4.3	2.7	99.9
GA ATLANTA	5	50	3878.0	326.0	33583	3545	31391	3449	0.0	0.0	100.0
GA ATLANTA	11	10	6.0	320.0	27220	3346	26233	3330	1.7	0.7	98.3
GA ATLANTA	17	23	124.0	332.0	19058	3077	18310	3035	7.0	1.4	99.6
GA ATLANTA	30	31	64.2	334.0	17357	2994	16498	2946	1.9	0.7	99.9
GA ATLANTA	36	20	159.1	332.0	19831	3111	18942	3069	3.1	0.5	99.3
GA ATLANTA	46	45	131.8	332.0	19535	3105	19186	3087	1.3	0.6	99.4
GA ATLANTA	57	48	84.9	319.0	10868	2653	10768	2651	2.0	2.1	99.7
GA ATLANTA	69	43	151.6	299.0	17977	3013	17797	3016	0.0	0.0	98.4
GA AUGUSTA	6	44	3227.0	418.0	40003	1260	34060	891	0.0	0.0	100.0
GA AUGUSTA	12	59	1576.5	485.0	38430	1220	32503	923	0.0	0.0	100.0
GA AUGUSTA	26	30	97.3	485.0	23728	642	22567	609	1.2	0.2	99.9
GA AUGUSTA	54	36	145.6	385.0	17991	549	18113	552	16.8	7.3	98.7
GA BAINBRIDGE	49	50	63.6	246.0	10611	359	10599	357	0.1	0.0	100.0
GA BAXLEY	34	25	50.0	147.0	6449	90	6427	90	0.0	0.0	100.0
GA BRUNSWICK	21	19	149.6	311.0	15978	219	15518	216	0.0	0.0	100.0
GA CHATSWORTH	18	28	386.9	564.0	18699	1311	16046	971	0.6	1.3	99.9
GA COCHRAN	29	7	3.2	350.0	20918	537	19674	507	0.3	0.3	99.9
GA COLUMBUS	3	47	3915.5	543.0	47958	1298	36480	878	0.0	0.0	100.0
GA COLUMBUS	9	33	1591.0	503.0	40480	998	31929	729	0.1	0.0	100.0
GA COLUMBUS	28	27	379.2	461.0	21998	826	21214	802	1.6	2.7	100.0
GA COLUMBUS	38	19	74.0	399.0	20739	590	20249	584	0.1	0.0	100.0
GA COLUMBUS	54	44	50.0	345.0	16574	510	16024	503	0.3	0.0	99.9
GA CORDELE	55	46	50.0	125.0	5647	77	5643	77	0.5	1.7	100.0
GA DALTON	23	16	50.0	447.0	11933	696	10153	636	9.4	8.9	100.0

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GA DAWSON	25	21	50.0	329.0	14221	275	14105	273	3.6	4.8	100.0
GA MACON	13	35	3044.2	238.0	25668	675	20815	593	0.0	0.0	100.0

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GA MACON	24	16	50.4	244.0	13788	454	13874	456	0.1	0.0	99.3
GA MACON	41	40	50.0	237.0	13015	432	12959	432	1.1	0.4	100.0
GA MACON	64	14	50.0	185.0	3009	263	2923	262	0.0	0.0	100.0
GA MONROE	63	26	365.4	363.0	20224	3121	19817	3104	0.0	0.0	100.0
GA PELHAM	14	17	371.1	378.0	20606	607	20564	606	5.7	18.1	100.0
GA PERRY	58	49	50.7	247.0	13979	459	13923	458	0.1	0.0	100.0
GA ROME	14	39	297.6	616.0	25523	3182	24599	3052	3.3	2.0	99.8
GA SAVANNAH	3	45	3179.3	451.0	42797	739	35355	654	0.0	0.0	100.0
GA SAVANNAH	9	15	1575.6	320.0	29935	643	25899	601	0.0	0.0	100.0
GA SAVANNAH	11	43	1545.1	445.0	37050	698	34769	670	0.0	0.0	100.0
GA SAVANNAH	22	31	280.6	436.0	23729	539	22657	519	0.0	0.0	100.0
GA THOMASVILLE	6	36	3793.7	619.0	52288	887	45945	842	0.0	0.0	100.0
GA TOCCOA	32	19	50.0	253.0	12105	443	11283	416	0.2	1.2	100.0
GA VALDOSTA	44	2	1.0	277.0	11708	236	11707	236	2.6	1.2	100.0
GA WAYCROSS	8	39	1565.7	314.0	29300	384	25403	336	0.2	0.1	99.9
GA WRENS	20	17	394.2	452.0	23220	582	22959	582	4.2	1.5	99.1
HI HILO	2	25	1.3	39.6	2195	59	2155	58	0.0	0.0	100.0
HI HILO	4	35	4073.8	366.0	33483	112	30256	110	0.0	0.0	99.8
HI HILO	9	19	1.9	86.9	2444	58	2391	58	0.0	0.0	100.0
HI HILO	11	21	11.5	42.4	4106	65	4051	65	0.0	0.0	100.0
HI HILO	13	16	11.5	33.0	4106	65	4051	65	0.0	0.0	100.0
HI HILO	14	18	0.1	44.2	572	44	751	46	0.0	0.0	75.6
HI HILO	32	31	43.7	366.0	17549	80	17557	80	0.0	0.0	100.0
HI HILO	38	39	43.7	366.0	17549	80	17557	80	0.0	0.0	100.0
HI HONOLULU	2	50	3162.3	151.8	10120	796	11517	836	0.0	0.0	87.1
HI HONOLULU	4	49	3162.3	33.0	11637	836	11185	836	0.0	0.0	99.9
HI HONOLULU	5	51	3801.9	629.0	52563	842	52476	842	0.0	0.0	100.0
HI HONOLULU	9	22	501.2	132.9	8546	836	8484	836	0.0	0.0	100.0
HI HONOLULU	11	18	245.5	131.4	7589	834	7519	836	0.0	0.0	99.7
HI HONOLULU	13	16	1122.0	33.0	9761	836	9683	836	0.0	0.0	100.0
HI HONOLULU	14	24	1.0	33.0	1929	717	1898	721	0.2	1.4	99.2
HI HONOLULU	20	19	19.1	622.0	20923	831	20876	836	0.0	3.7	100.0
HI HONOLULU	26	25	9.3	580.0	17512	836	17512	836	0.0	0.5	100.0
HI HONOLULU	32	31	2.1	130.5	2537	755	2501	754	0.9	0.0	99.9
HI KAILUA KONA	6	43	1659.6	887.0	54494	135	54363	145	0.0	0.0	99.9
HI LIHUE	8	3	2.2	305.0	22184	51	22184	51	0.0	0.0	100.0
HI LIHUE	21	12	0.2	305.0	17662	51	17541	51	0.0	0.0	100.0
HI LIHUE	27	10	0.2	305.0	17662	51	17557	51	0.0	0.0	100.0
HI LIHUE	67	46	43.7	366.0	17549	51	17557	51	0.0	0.0	100.0
HI WAILUKU	3	46	147.9	1814.0	54641	137	52313	138	0.0	0.0	99.6
HI WAILUKU	7	8	0.7	1811.0	42106	123	40173	121	0.0	0.0	100.0

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HI WAILUKU	10	23	34.7	1811.0	42475	123	40768	121	0.0	0.0	100.0
HI WAILUKU	12	29	61.7	1763.0	46637	130	45250	128	0.0	0.0	99.8

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HI WAILUKU	15	17	52.5	1723.0	44403	127	0.0	0.0	42954	123	0.0
0.0 100.0											
HI WAILUKU	21	20	1.8	33.0	2389	85	2364	85	7.4	6.0	99.4
HI WAILUKU	27	28	43.7	366.0	17547	100	17557	100	0.0	0.0	99.9
HI WAILUKU	33	34	43.7	366.0	17549	100	17557	100	0.0	0.0	100.0
IA AMES	5	30	3917.7	564.0	50299	990	41527	886	0.0	0.0	100.0
IA BURLINGTON	26	43	50.0	96.0	3549	89	3540	89	3.2	1.2	100.0
IA CEDAR RAPIDS	2	42	3190.6	442.0	40662	867	35268	782	0.0	0.0	99.8
IA CEDAR RAPIDS	9	14	1757.8	607.0	44933	968	35214	773	0.0	0.0	100.0
IA CEDAR RAPIDS	28	27	111.9	209.0	11975	372	11254	350	0.6	0.2	100.0
IA CEDAR RAPIDS	48	47	174.1	323.0	16673	526	16588	525	1.0	4.4	100.0
IA COUNCIL BLUFFS	32	33	50.0	98.0	6247	640	5713	628	8.5	9.9	100.0
IA DAVENPORT	6	41	3188.0	408.0	39303	1175	32652	967	0.0	0.0	99.7
IA DAVENPORT	18	21	133.6	168.0	9872	487	9745	483	0.1	0.0	100.0
IA DAVENPORT	36	55	50.0	65.0	744	259	744	259	4.3	1.3	100.0
IA DES MOINES	8	19	1750.8	591.0	45577	918	35645	835	0.0	0.0	100.0
IA DES MOINES	11	10	8.6	600.0	41306	882	39288	869	0.3	0.2	95.8
IA DES MOINES	13	29	1758.4	600.0	45164	915	38149	853	0.0	0.0	100.0
IA DES MOINES	17	26	209.8	463.0	21665	681	21533	680	0.1	0.0	100.0
IA DES MOINES	63	50	254.4	550.0	22871	696	22775	696	0.0	0.0	100.0
IA DUBUQUE	40	11	3.2	256.0	12699	223	12199	218	17.0	11.8	100.0
IA FORT DODGE	21	25	77.5	355.0	19278	198	19271	198	0.9	0.5	100.0
IA IOWA CITY	12	44	1544.1	439.0	36204	1046	31774	927	0.1	0.2	100.0
IA MASON CITY	3	51	3392.4	472.0	42627	749	32567	518	0.0	0.0	100.0
IA MASON CITY	24	18	94.9	436.0	19034	261	18946	260	1.8	1.1	100.0
IA OTTUMWA	15	31	120.4	363.0	18253	302	18162	299	2.9	3.4	100.0
IA RED OAK	36	35	121.0	475.0	20157	744	19119	697	1.7	10.5	99.8
IA SIOUX CITY	4	46	3917.7	585.0	50534	660	39289	479	0.0	0.0	100.0
IA SIOUX CITY	9	31	1721.6	616.0	45594	592	38557	465	0.0	0.0	100.0
IA SIOUX CITY	14	22	50.0	351.0	17104	238	17039	237	4.8	1.8	100.0
IA SIOUX CITY	27	28	280.7	326.0	18867	250	18651	250	0.6	0.7	99.9
IA WATERLOO	7	16	1758.1	604.0	44134	935	36392	763	0.0	0.0	99.9
IA WATERLOO	32	33	410.0	579.0	28464	707	28005	675	1.7	1.6	100.0
ID BOISE	2	26	2292.1	777.0	45704	393	50757	396	0.0	0.0	90.0
ID BOISE	4	50	1985.0	754.0	42898	392	48584	395	0.0	0.0	88.3
ID BOISE	7	21	998.3	808.0	39418	390	38622	389	0.0	0.0	99.7
ID CALDWELL	9	10	5.4	805.0	27363	386	25797	385	0.1	0.0	99.9
ID COEUR D'ALENE	26	56	50.0	465.0	5479	242	4408	158	0.0	0.0	100.0
ID IDAHO FALLS	3	47	3832.6	488.0	38053	234	40957	237	0.0	0.0	92.5
ID IDAHO FALLS	8	9	8.3	463.0	35671	232	33924	230	0.3	0.1	100.0
ID LEWISTON	3	46	3429.1	384.0	25661	134	28300	139	0.0	0.0	84.8

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ID MOSCOW	12	5	3.2	346.0	29101	156	26457	152	0.0	0.0	98.9
ID NAMPA	6	25	2105.2	811.0	45424	393	47939	393	0.0	0.0	93.1
ID NAMPA	12	18	895.8	829.0	39391	392	37416	390	0.0	0.0	100.0

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ID POCATELLO	6	41	5000.0	466.0	33448	266	35451	260	0.0	0.0	89.3
ID POCATELLO	10	17	571.8	465.0	30096	229	28382	228	0.1	0.0	100.0
ID TWIN FALLS	11	15	1788.9	323.0	28304	131	26750	129	0.0	0.0	100.0
ID TWIN FALLS	13	16	53.4	161.0	11399	101	11318	101	0.0	0.0	100.0
ID TWIN FALLS	35	34	50.0	164.0	3166	66	3147	66	0.0	0.0	100.0
IL AURORA	60	47	413.1	494.0	27700	8419	27835	8417	0.1	0.0	99.4
IL BLOOMINGTON	43	42	50.0	293.0	15347	597	15068	562	2.2	0.9	99.9
IL CARBONDALE	8	10	5.2	268.0	24165	650	21513	531	0.0	0.0	97.6
IL CHAMPAIGN	3	36	4368.3	287.0	33506	909	23457	719	2.9	0.7	100.0
IL CHAMPAIGN	15	41	50.0	396.0	16496	430	16361	425	0.1	0.0	99.9
IL CHARLESTON	51	31	50.0	70.0	3110	75	3110	75	3.6	1.6	100.0
IL CHICAGO	2	48	919.7	418.0	31419	8574	22376	8180	0.0	0.0	100.0
IL CHICAGO	5	29	458.9	494.0	30591	8481	27981	8315	6.7	0.7	99.6
IL CHICAGO	7	25	227.2	515.0	28937	8459	27401	8355	2.5	0.1	100.0
IL CHICAGO	9	19	470.8	415.0	26927	8382	26310	8322	5.1	0.7	97.3
IL CHICAGO	11	69	253.5	497.0	28816	8451	25872	8210	3.4	0.1	100.0
IL CHICAGO	20	3	1.0	378.0	18070	7917	16549	7875	1.3	0.2	98.6
IL CHICAGO	26	27	119.7	472.0	21751	8172	21592	8144	1.2	0.2	99.7
IL CHICAGO	32	31	407.6	430.0	23824	8306	23381	8283	3.6	0.6	100.0
IL CHICAGO	38	21	374.0	381.0	21891	8103	21844	8103	0.5	0.2	99.9
IL CHICAGO	44	65	328.9	433.0	23036	8250	22991	8248	3.8	0.6	100.0
IL DECATUR	17	58	379.5	393.0	21739	809	21190	800	0.0	0.0	100.0
IL DECATUR	23	22	99.8	314.0	13380	603	13157	593	0.9	0.3	100.0
IL EAST ST. LOUIS	46	47	366.9	345.0	20179	2565	20092	2572	1.6	0.6	99.7
IL FREEPORT	23	53	50.0	219.0	11729	696	11607	690	5.6	4.1	99.9
IL HARRISBURG	3	43	3959.6	302.0	34698	762	24899	571	0.0	0.0	100.0
IL JACKSONVILLE	14	15	50.0	94.0	3206	51	3206	51	5.9	1.4	100.0
IL JOLIET	66	43	378.8	393.0	20290	8172	20264	8172	0.0	0.0	99.9
IL LASALLE	35	10	3.2	418.0	19023	1216	18021	764	3.6	9.7	99.0
IL MACOMB	22	23	50.0	158.0	4238	55	4190	55	2.4	1.6	100.0
IL MARION	27	17	135.0	233.0	13330	355	13248	352	0.0	0.0	100.0
IL MOLINE	8	34	1597.7	308.0	28878	953	24657	840	0.0	0.0	100.0
IL MOLINE	24	49	50.0	98.0	4397	338	4370	337	0.0	0.0	100.0
IL MOUNT VERNON	13	18	1699.9	302.0	29177	732	21226	445	0.0	0.0	100.0
IL OLNEY	16	29	50.0	283.0	14955	222	14962	222	0.7	0.4	99.9
IL PEORIA	19	16	94.9	194.0	13039	554	12425	534	4.8	0.9	99.6
IL PEORIA	25	28	111.2	207.0	14513	567	14495	567	4.2	1.0	100.0
IL PEORIA	31	30	84.6	195.0	11946	542	11705	539	1.6	0.2	100.0
IL PEORIA	47	57	54.6	216.0	13408	556	13354	555	2.9	0.9	100.0
IL PEORIA	59	39	50.0	178.0	7106	449	7092	448	0.5	0.2	100.0
IL QUINCY	10	38	2938.4	238.0	26865	313	24074	296	1.0	0.2	100.0

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION		EXISTING NTSC				DTV/ NTSC AREA MATCH (%)
							CURRENT SERVICE		NEW INTERFERENCE		
					AREA (Sq km)	PEOPLE (thous)	AREA (Sq km)	PEOPLE (thous)	AREA (% NL Area)	PEOPLE (% NL Pop)	
IL QUINCY	16	32	50.0	302.0	14010	186	13833	186	2.5	1.9	100.0
IL QUINCY	27	19	50.0	173.0	3850	101	3835	101	11.0	6.3	100.0

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
IL ROCK ISLAND	4	46	3188.0	408.0	39506	1206	32465	1018	0.0	0.0	99.9
IL ROCKFORD	13	45	3159.1	216.0	24086	1399	18848	932	0.0	0.0	100.0
IL ROCKFORD	17	54	50.0	204.0	11228	680	11057	670	0.3	0.1	100.0
IL ROCKFORD	39	59	50.0	176.0	11588	690	11460	683	0.7	0.2	99.9
IL SPRINGFIELD	20	40	77.9	436.0	22088	583	20591	558	0.0	0.0	100.0
IL SPRINGFIELD	49	50	50.0	189.0	5689	230	5689	230	0.0	0.0	100.0
IL SPRINGFIELD	55	45	115.9	439.0	23615	644	23483	640	0.0	0.0	100.0
IL URBANA	12	33	1642.3	302.0	29091	972	22983	827	0.0	0.0	100.0
IL URBANA	27	26	159.9	139.0	10989	325	11034	326	3.8	1.1	99.6
IN ANGOLA	63	12	3.2	144.0	11448	607	11378	601	0.0	0.0	100.0
IN BLOOMINGTON	4	47	1900.6	357.0	31797	2070	25233	1800	1.6	1.2	99.8
IN BLOOMINGTON	30	14	50.0	216.0	12044	479	11891	477	2.1	1.8	100.0
IN BLOOMINGTON	42	27	362.7	317.0	15528	1567	14603	1522	0.4	0.1	100.0
IN BLOOMINGTON	63	46	92.9	328.0	18280	1602	18093	1600	1.4	0.2	100.0
IN ELKHART	28	58	368.8	335.0	20750	1271	20397	1202	3.1	6.5	99.9
IN EVANSVILLE	7	28	1631.3	305.0	28972	795	26374	760	0.0	0.0	100.0
IN EVANSVILLE	9	57	3437.7	177.0	23022	720	17689	620	0.7	0.3	100.0
IN EVANSVILLE	14	15	115.2	311.0	15366	544	15374	545	1.0	0.6	99.8
IN EVANSVILLE	25	39	51.4	314.0	16431	568	16383	568	4.2	2.8	99.8
IN EVANSVILLE	44	45	51.6	296.0	15875	570	15850	570	0.5	0.2	100.0
IN FORT WAYNE	15	4	1.0	253.0	9492	554	9259	545	14.6	7.0	100.0
IN FORT WAYNE	21	56	50.0	226.0	11618	622	10990	578	7.2	2.6	100.0
IN FORT WAYNE	33	24	50.0	235.0	11840	626	11648	601	0.2	0.1	99.6
IN FORT WAYNE	39	38	51.9	223.0	13675	691	13673	690	9.8	7.0	100.0
IN FORT WAYNE	55	36	50.0	238.0	12086	641	12101	642	0.1	0.1	99.9
IN GARY	50	51	392.2	494.0	27801	8420	27117	8318	4.7	1.0	100.0
IN GARY	56	23	59.3	306.0	16488	4771	16446	4767	0.7	1.0	100.0
IN HAMMOND	62	18	265.5	146.0	12543	7070	12397	7013	0.0	0.0	99.9
IN INDIANAPOLIS	6	9	15.7	302.0	28989	2258	27733	2217	0.0	0.0	96.1
IN INDIANAPOLIS	8	53	1870.8	305.0	28835	2285	25140	2126	0.0	0.0	100.0
IN INDIANAPOLIS	13	25	1977.7	299.0	28523	2300	23340	2067	0.0	0.0	100.0
IN INDIANAPOLIS	20	21	62.3	259.0	14865	1582	14455	1570	2.0	0.7	100.0
IN INDIANAPOLIS	40	52	111.0	302.0	17803	1701	17488	1689	0.1	0.0	100.0
IN INDIANAPOLIS	59	35	319.6	304.0	21214	1909	20273	1843	0.0	0.0	100.0
IN INDIANAPOLIS	69	44	50.0	167.0	3173	1058	3172	1058	0.0	0.0	100.0
IN KOKOMO	29	11	3.2	236.0	13539	1122	13535	1122	3.3	5.4	100.0
IN LAFAYETTE	18	32	58.8	238.0	11542	460	11478	450	1.9	1.1	100.0
IN MARION	23	54	372.3	295.0	18465	1808	18309	1822	1.5	0.8	99.0
IN MUNCIE	49	17	50.0	155.0	10219	561	10123	555	7.1	6.2	100.0
IN RICHMOND	43	30	127.8	302.0	15265	2668	15167	2645	2.1	5.0	97.8
IN SALEM	58	38	93.5	346.0	16719	1258	16180	1234	4.9	1.1	99.7

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
IN SOUTH BEND	16	30	255.6	326.0	20318	1165	19303	1120	0.9	1.7	100.0
IN SOUTH BEND	22	42	350.7	325.0	22608	1251	21953	1252	2.7	8.5	97.6

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
IN SOUTH BEND	34	49	53.6	246.0	14441	956	14158	950	1.2	0.7	100.0
IN SOUTH BEND	46	45	50.0	305.0	15875	992	15723	971	4.7	4.0	99.5
IN TERRE HAUTE	2	48	4443.1	290.0	31945	885	22661	578	0.0	0.0	99.8
IN TERRE HAUTE	10	34	2190.6	293.0	27419	719	25425	672	3.3	4.2	99.8
IN TERRE HAUTE	38	19	106.4	299.0	14302	402	14184	389	1.5	1.5	100.0
IN VINCENNES	22	23	58.1	174.0	10526	232	10497	232	0.1	0.0	100.0
KS COLBY	4	32	5000.0	229.0	29326	52	23210	37	0.0	0.0	100.0
KS ENSIGN	6	30	5000.0	219.0	29034	121	27414	118	0.0	0.0	100.0
KS FORT SCOTT	20	43	319.2	233.0	17983	312	17812	311	0.2	0.0	100.0
KS GARDEN CITY	11	18	1874.0	244.0	23895	118	22777	114	0.0	0.0	100.0
KS GARDEN CITY	13	15	1983.7	265.0	25309	114	24011	114	0.0	0.0	100.0
KS GOODLAND	10	17	2322.1	299.0	28055	43	27042	41	0.1	0.0	100.0
KS GREAT BEND	2	46	4435.1	296.0	33559	206	29598	173	0.0	0.0	100.0
KS HAYS	7	20	3297.2	216.0	24961	100	23578	95	0.0	0.0	100.0
KS HAYS	9	16	1531.9	332.0	30110	156	24913	114	0.0	0.0	100.0
KS HUTCHINSON	8	17	2697.0	244.0	24512	669	19010	568	0.0	0.0	100.0
KS HUTCHINSON	12	19	1564.3	463.0	37839	757	33293	727	0.0	0.0	100.0
KS LAKIN	3	49	5000.0	171.0	26058	89	21570	85	0.0	0.0	100.0
KS LAWRENCE	38	39	334.8	330.0	16867	1758	16619	1725	2.1	0.5	99.5
KS PITTSBURG	7	30	1499.8	332.0	29956	493	28173	474	0.0	0.0	100.0
KS SALINA	18	15	50.0	317.0	11045	135	11015	134	2.2	0.4	100.0
KS TOPEKA	11	23	2133.8	305.0	28378	972	23584	897	0.0	0.0	99.9
KS TOPEKA	13	22	1555.8	421.0	34552	638	28823	553	0.0	0.0	100.0
KS TOPEKA	27	28	50.0	320.0	16147	391	15771	378	0.3	0.2	100.0
KS TOPEKA	49	48	254.2	451.0	20866	503	20058	472	1.6	0.5	100.0
KS WICHITA	3	51	4267.5	305.0	33652	684	27321	660	0.0	0.0	100.0
KS WICHITA	10	26	1715.3	314.0	29237	675	26662	664	0.0	0.0	100.0
KS WICHITA	24	25	211.4	341.0	17913	625	17910	625	2.2	0.4	100.0
KS WICHITA	33	32	50.0	133.0	2740	420	2738	420	1.9	1.4	100.0
KY ASHLAND	25	26	50.0	152.0	7110	377	6573	352	5.4	5.3	100.0
KY ASHLAND	61	47	79.3	189.0	9328	505	9351	485	2.7	8.3	96.9
KY BEATTYVILLE	65	7	3.2	197.0	6780	102	5466	77	0.0	0.0	100.0
KY BOWLING GREEN	13	12	4.8	226.0	22128	481	20329	465	0.0	0.0	98.5
KY BOWLING GREEN	24	18	50.0	198.0	9926	232	9414	224	2.4	2.8	100.0
KY BOWLING GREEN	40	27	50.0	244.0	10720	241	10480	237	0.8	0.5	100.0
KY BOWLING GREEN	53	48	50.0	247.0	12390	264	12340	262	1.1	0.9	99.0
KY CAMPBELLSVILLE	34	19	50.0	314.0	13865	263	13174	246	3.7	4.0	100.0
KY COVINGTON	54	34	50.0	122.0	6196	1507	5999	1562	8.8	5.4	97.7
KY DANVILLE	56	42	217.9	351.0	16912	699	16732	698	3.4	2.4	98.7
KY ELIZABETHTOWN	23	51	50.0	198.0	11306	614	10465	384	0.6	0.1	99.7
KY HARLAN	44	14	52.7	601.0	21335	605	17828	476	0.4	0.3	100.0

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KY HAZARD	35	53	50.0	384.0	13917	304	13370	292	0.2	0.1	100.0
KY HAZARD	57	41	173.4	475.0	17021	380	15943	348	1.4	1.0	99.9

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
KY LEXINGTON	18	22	50.0	195.0	12165	605	12071	604	0.7	0.1	99.8
KY LEXINGTON	27	40	69.4	300.0	16409	667	16252	663	1.2	0.4	100.0
KY LEXINGTON	36	59	120.7	305.0	17927	692	17526	686	0.0	0.0	99.9
KY LEXINGTON	46	45	54.4	265.0	14341	645	14066	641	4.3	1.9	99.9
KY LOUISVILLE	3	62	3917.7	555.0	47643	3226	36062	2226	3.9	5.1	100.0
KY LOUISVILLE	11	55	629.6	390.0	27937	1483	26587	1466	1.1	0.5	99.8
KY LOUISVILLE	15	16	50.0	262.0	12708	1144	12246	1137	0.8	0.1	100.0
KY LOUISVILLE	21	17	82.6	212.0	11921	1129	11340	1102	2.9	0.3	99.3
KY LOUISVILLE	32	26	333.0	384.0	25181	1436	24564	1428	2.0	0.3	99.9
KY LOUISVILLE	41	49	416.9	391.0	26507	1452	24728	1397	1.8	0.5	100.0
KY LOUISVILLE	68	43	50.0	250.0	12287	1148	11978	1142	0.0	0.0	99.7
KY MADISONVILLE	19	20	126.4	241.0	13351	523	13243	522	0.4	0.2	100.0
KY MADISONVILLE	35	36	50.0	317.0	14154	291	13858	288	3.4	2.4	100.0
KY MOREHEAD	38	15	50.0	293.0	13847	217	12905	202	0.9	1.2	100.0
KY MOREHEAD	67	21	374.9	247.0	18474	473	17513	418	0.0	0.0	100.0
KY MURRAY	21	24	50.0	201.0	11737	279	11706	278	0.6	0.3	100.0
KY NEWPORT	19	20	318.9	305.0	18521	2455	18101	2284	2.0	1.0	98.9
KY OWENSBORO	31	33	50.0	140.0	9776	454	9625	452	3.3	1.5	100.0
KY OWENTON	52	24	50.0	216.0	11986	496	11587	472	1.1	0.6	100.0
KY PADUCAH	6	51	3521.8	482.0	44303	877	38441	808	0.0	0.0	100.0
KY PADUCAH	29	30	50.0	152.0	6981	174	6804	170	7.2	5.5	100.0
KY PADUCAH	49	50	154.0	327.0	19440	507	19481	507	3.3	1.4	98.7
KY PIKEVILLE	22	16	69.0	430.0	16129	437	15110	414	1.2	0.8	100.0
KY SOMERSET	29	25	50.0	445.0	17690	385	16583	356	2.3	3.1	100.0
LA ALEXANDRIA	5	43	3500.3	485.0	44463	997	43485	983	0.1	0.0	99.9
LA ALEXANDRIA	25	27	113.7	415.0	18717	292	18698	291	0.7	0.4	100.0
LA ALEXANDRIA	31	30	57.9	333.0	17399	254	17377	254	0.9	0.1	100.0
LA BATON ROUGE	2	47	3652.1	515.0	46050	2398	40626	2328	0.0	0.0	99.5
LA BATON ROUGE	9	42	1576.4	509.0	40205	1878	32242	1276	0.0	0.0	100.0
LA BATON ROUGE	27	14	143.6	303.0	15267	769	14551	735	0.5	0.1	99.9
LA BATON ROUGE	33	34	410.8	522.0	26339	1300	25430	1274	0.0	0.0	100.0
LA BATON ROUGE	44	45	280.9	426.0	19895	998	19883	997	0.1	0.0	100.0
LA COLUMBIA	11	20	1759.9	610.0	45810	705	35034	573	0.0	0.0	100.0
LA LAFAYETTE	3	41	3761.1	530.0	48504	922	35858	717	0.0	0.0	100.0
LA LAFAYETTE	10	22	1470.8	530.0	35974	872	28579	750	0.0	0.0	100.0
LA LAFAYETTE	15	16	144.9	360.0	17770	560	17769	560	0.5	0.5	100.0
LA LAFAYETTE	24	23	113.1	369.0	17540	531	17540	531	0.0	0.0	100.0
LA LAKE CHARLES	7	36	1552.3	451.0	36913	954	35144	939	0.0	0.0	100.0
LA LAKE CHARLES	18	26	54.3	314.0	16355	336	16355	336	0.9	0.3	100.0
LA LAKE CHARLES	29	28	58.2	394.0	19568	609	19552	609	0.0	0.0	100.0
LA MONROE	8	35	1713.1	576.0	44349	726	41991	684	0.0	0.0	100.0

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							CURRENT SERVICE		NEW INTERFERENCE		
					AREA (Sq km)	PEOPLE (thous)	AREA (Sq km)	PEOPLE (thous)	AREA (% NL Area)	PEOPLE (% NL Pop)	
LA MONROE	13	19	1592.2	543.0	41802	693	36742	619	0.0	0.0	100.0
LA NEW ORLEANS	4	35	3932.7	305.0	34789	1785	34359	1770	0.0	0.0	100.0

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LA NEW ORLEANS	6	46	4096.4	283.0	34118	1808	33653	1787	0.0	0.0	100.0
LA NEW ORLEANS	8	30	1605.4	302.0	29226	1681	26919	1601	0.0	0.0	100.0
LA NEW ORLEANS	12	11	5.6	308.0	22338	1550	20400	1484	0.0	0.0	100.0
LA NEW ORLEANS	20	21	368.1	276.0	20472	1518	20000	1498	0.0	0.2	100.0
LA NEW ORLEANS	26	24	155.6	308.0	16252	1383	15848	1372	0.0	0.6	100.0
LA NEW ORLEANS	32	31	123.6	308.0	14963	1365	14959	1368	0.1	0.5	100.0
LA NEW ORLEANS	38	39	371.3	311.0	18381	1432	18380	1432	0.0	0.0	100.0
LA NEW ORLEANS	49	48	126.4	271.0	14360	1328	14360	1328	0.0	0.1	100.0
LA SHREVEPORT	3	41	3885.8	543.0	48519	1088	34694	899	0.0	0.0	100.0
LA SHREVEPORT	12	17	1645.8	549.0	43305	1013	33450	894	0.8	0.5	100.0
LA SHREVEPORT	24	23	79.0	326.0	18426	530	18242	529	0.0	0.2	100.0
LA SHREVEPORT	33	34	366.0	553.0	28978	828	28134	801	0.0	0.0	100.0
LA SHREVEPORT	45	44	204.5	507.0	21330	637	21209	635	0.7	0.7	100.0
LA SLIDELL	54	51	245.4	213.0	16705	1452	16700	1451	0.0	0.2	100.0
LA WEST MONROE	14	18	395.8	572.0	30733	550	30628	553	0.3	0.3	99.8
LA WEST MONROE	39	38	50.0	152.0	9733	262	9714	262	0.6	0.5	100.0
MA ADAMS	19	36	50.0	637.0	18303	1525	15710	1076	0.8	0.1	100.0
MA BOSTON	2	43	3307.5	317.0	31847	6837	29690	6688	0.0	0.0	99.7
MA BOSTON	4	23	1836.9	354.0	31377	6818	29830	6707	8.8	2.0	99.7
MA BOSTON	5	34	4155.9	299.0	31739	6833	25676	5679	0.0	0.0	99.6
MA BOSTON	7	65	1677.4	306.0	27464	6584	26367	6533	0.0	0.0	99.2
MA BOSTON	25	55	102.5	357.0	19050	6100	18068	5957	1.6	1.2	100.0
MA BOSTON	38	39	132.6	354.0	20455	6249	19796	6053	22.4	9.8	99.1
MA BOSTON	44	43	72.3	329.0	17304	5836	16655	5708	11.8	5.0	99.2
MA BOSTON	68	30	53.7	249.0	14174	5025	13556	4794	0.8	1.2	99.2
MA CAMBRIDGE	56	20	124.0	360.0	18944	6083	18048	5920	5.5	3.1	99.1
MA LAWRENCE	62	59	279.6	186.0	13156	5013	11798	4437	0.0	0.0	100.0
MA MARLBOROUGH	66	33	241.7	326.0	21622	6194	19746	5542	5.9	5.6	99.8
MA NEW BEDFORD	6	49	4620.9	283.0	31946	5216	23340	2536	2.7	1.1	99.9
MA NEW BEDFORD	28	52	302.6	229.0	15120	3907	12894	2400	0.7	1.8	100.0
MA NORWELL	46	54	50.0	75.0	1238	478	1223	455	0.8	0.2	100.0
MA SPRINGFIELD	22	51	213.7	268.0	12561	2202	11790	2017	4.9	2.4	98.1
MA SPRINGFIELD	40	11	3.2	322.0	15614	2312	13752	2124	3.2	2.2	97.3
MA SPRINGFIELD	57	42	70.3	306.0	14196	1988	12333	1723	11.5	3.7	100.0
MA VINEYARD HAVEN	58	22	50.0	155.0	9601	549	9587	549	4.1	9.9	100.0
MA WORCESTER	27	67	57.4	466.0	19170	6096	16359	5103	1.4	1.7	99.3
MA WORCESTER	48	47	211.1	398.0	22074	4143	20350	3785	5.5	15.5	99.5
MD ANNAPOLIS	22	41	374.9	265.0	19428	6018	18166	5600	0.9	0.5	99.9
MD BALTIMORE	2	38	4830.2	305.0	32557	7690	29178	7061	0.4	0.2	99.9
MD BALTIMORE	11	52	2619.1	305.0	27947	7046	25509	6601	1.4	1.2	99.8
MD BALTIMORE	13	40	2668.5	302.0	27784	7036	23145	6217	0.9	0.8	99.6

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MD BALTIMORE	24	29	50.0	326.0	14435	5162	14573	5313	3.1	1.4	97.3
MD BALTIMORE	45	65	65.8	386.0	19095	5790	18879	5838	2.9	8.0	97.2

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MD BALTIMORE	54	39	385.6	349.0	23602	6569	21073	5726	7.1	3.6	99.8
MD BALTIMORE	67	28	50.0	250.0	12891	4361	11767	3291	1.1	3.1	99.7
MD FREDERICK	62	16	145.2	138.0	8978	2871	7344	2240	2.9	15.1	99.4
MD HAGERSTOWN	25	57	65.7	375.0	13523	646	12700	599	3.9	2.4	99.8
MD HAGERSTOWN	31	55	293.6	378.0	14888	769	13580	674	7.7	7.0	99.5
MD HAGERSTOWN	68	44	293.3	394.0	16622	860	12439	579	0.4	0.2	99.8
MD OAKLAND	36	21	50.0	216.0	6458	119	4980	89	6.1	2.8	99.9
MD SALISBURY	16	57	279.0	299.0	15961	439	16072	457	0.3	0.2	99.3
MD SALISBURY	28	27	90.6	157.0	12951	338	12951	338	8.6	11.8	100.0
MD SALISBURY	47	25	115.4	304.0	14838	432	14838	432	0.1	0.0	100.0
ME AUGUSTA	10	29	1896.6	305.0	27280	787	24864	734	0.0	0.0	100.0
ME BANGOR	2	27	3056.6	192.0	22579	329	19887	293	0.0	0.0	99.9
ME BANGOR	5	46	1334.9	402.0	30352	475	26568	432	0.0	0.0	99.3
ME BANGOR	7	22	3231.7	250.0	26030	340	23031	286	0.0	0.0	100.0
ME BIDDEFORD	26	45	50.0	244.0	11363	644	11056	628	0.8	0.4	98.2
ME CALAIS	13	16	589.3	134.0	15424	33	12188	28	0.0	0.0	100.0
ME LEWISTON	35	4	1.0	258.0	9462	480	8905	469	1.9	1.0	100.0
ME ORONO	12	21	2653.6	302.0	28047	355	24553	318	0.0	0.0	100.0
ME POLAND SPRING	8	15	422.1	1173.0	43430	1050	39418	995	1.1	2.9	99.0
ME PORTLAND	6	38	3810.8	610.0	37705	1218	35037	1063	0.0	0.0	97.6
ME PORTLAND	13	44	1578.4	491.0	33321	981	32416	982	1.8	4.7	97.4
ME PORTLAND	51	39	164.9	280.0	13613	602	13880	603	1.6	0.5	95.8
ME PRESQUE ISLE	8	15	185.2	107.0	7309	54	7675	53	0.0	0.0	87.9
ME PRESQUE ISLE	10	14	1526.5	332.0	29468	80	26396	76	0.0	0.0	100.0
MI ALPENA	6	57	3207.3	448.0	40032	270	29414	185	0.0	0.0	99.9
MI ALPENA	11	13	4.7	204.0	17850	111	16858	108	0.0	0.0	99.5
MI ANN ARBOR	31	33	53.9	329.0	16906	3008	14123	2241	3.2	4.8	99.9
MI BAD AXE	35	23	50.0	155.0	6038	78	6038	78	0.2	0.2	100.0
MI BATTLE CREEK	41	40	106.2	329.0	18257	1506	18958	1508	1.6	1.0	95.9
MI BATTLE CREEK	43	44	371.1	323.0	23040	1892	22190	1822	3.0	1.7	100.0
MI BAY CITY	5	32	4075.4	305.0	32999	1752	25561	1306	0.2	0.1	99.9
MI CADILLAC	9	58	1576.0	497.0	39253	695	34318	587	0.0	0.0	99.9
MI CADILLAC	27	47	50.0	180.0	7138	82	6754	79	0.6	1.5	99.9
MI CADILLAC	33	46	50.0	311.0	11213	147	11108	145	13.0	9.1	99.6
MI CHEBOYGAN	4	14	5000.0	189.0	27454	157	24742	136	0.0	0.0	100.0
MI DETROIT	2	45	4363.6	305.0	34226	5923	26788	5226	8.2	0.2	100.0
MI DETROIT	4	21	4468.5	306.0	34286	5875	25621	5135	10.3	0.6	100.0
MI DETROIT	7	58	2221.1	305.0	27166	5532	24757	5124	1.6	0.3	98.7
MI DETROIT	20	14	119.2	296.0	17675	4803	17637	4778	18.9	2.4	99.5
MI DETROIT	50	55	130.8	293.0	18032	4840	15992	4513	1.6	0.5	99.7
MI DETROIT	56	41	111.6	293.0	15356	4532	17527	4800	13.0	6.5	87.6

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MI DETROIT	62	43	50.0	296.0	14141	4425	15005	4490	0.0	0.0	94.1
MI EAST LANSING	23	22	51.6	296.0	15820	1252	15617	1219	0.7	0.8	100.0

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MI ESCANABA	3	48	3682.3	363.0	36579	176	35885	174	0.0	0.0	99.9
MI FLINT	12	36	2091.8	287.0	28137	2044	24958	1804	1.0	0.9	99.9
MI FLINT	28	52	132.9	265.0	14274	2524	13950	2317	5.0	12.8	99.9
MI FLINT	66	30	374.9	287.0	21034	1666	21138	1689	9.1	12.9	99.3
MI GRAND RAPIDS	8	7	5.7	302.0	22614	1740	26361	1964	5.0	0.8	83.0
MI GRAND RAPIDS	13	56	1888.6	305.0	28586	1214	24046	1138	0.0	0.0	100.0
MI GRAND RAPIDS	17	20	58.0	334.0	17409	1403	17187	1399	1.8	2.4	100.0
MI GRAND RAPIDS	35	24	52.1	262.0	14798	1076	14779	1075	1.4	0.7	100.0
MI IRON MOUNTAIN	8	16	90.2	190.0	13028	74	11935	68	0.0	0.0	100.0
MI KALAMAZOO	3	19	4279.0	305.0	31074	2204	31119	2066	7.0	2.6	93.5
MI KALAMAZOO	52	5	1.0	125.0	4453	369	4434	367	0.6	0.3	100.0
MI KALAMAZOO	64	39	144.6	319.0	19395	1565	19416	1566	0.9	0.4	99.8
MI LANSING	6	15	4320.7	305.0	31993	3609	20054	1754	2.3	3.7	100.0
MI LANSING	47	46	59.4	305.0	16222	1057	16241	1049	1.3	1.1	98.9
MI LANSING	53	51	201.1	299.0	14959	979	14923	971	2.5	1.0	99.9
MI MANISTEE	21	18	50.0	104.0	4095	43	4060	43	1.1	0.8	100.0
MI MARQUETTE	6	46	4416.0	296.0	33464	194	24315	149	0.0	0.0	99.9
MI MARQUETTE	13	33	1561.6	332.0	30065	186	26298	169	0.0	0.0	100.0
MI MOUNT CLEMENS	38	44	277.3	192.0	12653	4090	13219	4164	3.2	0.8	95.6
MI MOUNT PLEASANT	14	38	50.0	158.0	7704	244	7698	244	12.8	7.6	100.0
MI MUSKEGON	54	11	3.2	294.0	14931	1067	14341	1051	2.4	0.9	99.7
MI ONONDAGA	10	57	1671.8	299.0	28282	2171	20865	1373	0.0	0.0	100.0
MI SAGINAW	25	27	299.0	402.0	25996	2370	24377	1780	0.5	3.8	100.0
MI SAGINAW	49	48	50.0	287.0	14966	1273	14754	1224	0.0	0.0	100.0
MI SAULT STE. MARI	8	56	2169.7	290.0	27395	84	25478	81	0.0	0.0	99.8
MI SAULT STE. MARI	10	49	1523.7	370.0	31194	91	27660	85	0.0	0.0	100.0
MI TRAVERSE CITY	7	50	1573.9	411.0	34995	407	30936	331	3.6	5.3	100.0
MI TRAVERSE CITY	29	41	108.0	399.0	19525	262	18655	253	0.7	0.5	100.0
MI UNIVERSITY CENT	19	16	50.0	140.0	11105	616	11094	616	28.3	20.4	100.0
MI VANDERBILT	45	31	50.0	290.0	8276	97	7709	90	6.8	6.4	100.0
MN ALEXANDRIA	7	25	1489.3	341.0	31180	401	29321	388	0.0	0.0	100.0
MN ALEXANDRIA	42	28	164.1	358.0	22033	319	20526	220	0.0	0.0	100.0
MN APPLETON	10	18	1532.2	381.0	33094	243	28413	201	0.0	0.0	100.0
MN AUSTIN	6	35	3873.9	320.0	34446	612	27389	517	0.0	0.0	100.0
MN AUSTIN	15	20	50.0	116.0	8358	149	8316	148	3.3	1.2	100.0
MN BEMIDJI	9	18	1541.1	329.0	30119	106	26910	82	0.0	0.0	100.0
MN BRAINERD	22	20	50.0	227.0	9312	95	9312	95	0.5	0.3	100.0
MN DULUTH	3	51	5000.0	302.0	33133	287	31706	278	0.0	0.0	99.5
MN DULUTH	8	19	3422.3	290.0	28597	264	25181	244	0.0	0.0	100.0
MN DULUTH	10	39	3384.0	301.0	29007	265	25501	239	0.0	0.0	100.0
MN DULUTH	21	17	50.0	180.0	5282	175	5259	175	15.7	12.2	100.0

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MN HIBBING	13	36	1015.5	204.0	15062	113	13778	109	0.0	0.0	100.0
MN MANKATO	12	16	1614.6	317.0	29371	380	25970	325	0.0	0.0	100.0

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MN MINNEAPOLIS	4	34	3134.4	436.0	40692	3026	34317	2907	0.0	0.0	100.0
MN MINNEAPOLIS	9	26	1546.0	435.0	35788	2939	30106	2803	0.0	0.0	100.0
MN MINNEAPOLIS	11	32	1544.7	439.0	35975	2942	32101	2851	0.0	0.0	100.0
MN MINNEAPOLIS	23	22	325.8	351.0	20271	2641	20216	2640	0.8	0.1	100.0
MN MINNEAPOLIS	29	30	373.2	373.0	21686	2663	20762	2650	1.7	0.3	100.0
MN MINNEAPOLIS-ST.	45	44	373.4	375.0	21942	2656	21835	2655	0.0	0.0	100.0
MN REDWOOD FALLS	43	14	50.0	167.0	8615	75	8567	75	0.0	0.0	100.0
MN ROCHESTER	10	38	1533.8	381.0	32050	534	26955	467	2.4	0.9	100.0
MN ROCHESTER	47	46	50.0	104.0	4001	141	3913	140	0.7	0.0	100.0
MN ST. CLOUD	41	40	183.4	448.0	20758	2602	19438	2371	0.4	0.5	100.0
MN ST. PAUL	2	33	3204.0	399.0	38561	2992	34788	2909	0.0	0.0	100.0
MN ST. PAUL	5	50	3134.4	436.0	40611	3024	36962	2934	0.0	0.0	99.9
MN ST. PAUL	17	21	50.0	396.0	12029	2469	11989	2468	0.4	0.2	100.0
MN THIEF RIVER FAL	10	59	942.4	183.0	13042	120	10417	108	0.0	0.0	100.0
MN WALKER	12	35	2066.8	283.0	28376	190	26377	176	0.0	0.0	100.0
MN WORTHINGTON	20	19	135.4	332.0	16667	136	16653	136	0.9	2.2	100.0
MO CAPE GIRARDEAU	12	32	1769.1	610.0	44914	935	37475	777	0.4	0.4	100.0
MO CAPE GIRARDEAU	23	22	109.0	543.0	21519	492	21188	488	1.1	1.8	99.9
MO COLUMBIA	8	28	2938.7	242.0	26256	442	21959	411	0.0	0.0	100.0
MO COLUMBIA	17	18	77.9	348.0	18500	398	18296	397	0.0	0.0	100.0
MO HANNIBAL	7	29	2494.8	271.0	27718	320	24376	290	0.0	0.0	99.9
MO JEFFERSON CITY	13	12	5.7	308.0	25516	454	22220	406	0.0	0.0	99.9
MO JEFFERSON CITY	25	20	107.7	314.0	15672	315	15282	311	0.0	0.4	100.0
MO JOPLIN	12	9	5.8	311.0	26657	495	24082	436	0.0	0.0	97.0
MO JOPLIN	16	14	149.5	313.0	19640	373	18479	368	0.2	0.1	100.0
MO JOPLIN	26	25	50.0	283.0	13960	295	13822	294	1.2	0.4	100.0
MO KANSAS CITY	4	29	3948.6	344.0	34965	2099	30654	1911	0.0	0.0	99.4
MO KANSAS CITY	5	46	3984.1	344.0	35091	2095	28989	1961	0.0	0.0	100.0
MO KANSAS CITY	9	24	1530.7	357.0	30875	1933	29070	1918	3.0	0.4	99.9
MO KANSAS CITY	19	26	50.8	357.0	17503	1689	17167	1685	5.6	0.8	99.9
MO KANSAS CITY	32	31	374.3	322.0	22786	1760	22742	1759	2.1	0.5	99.9
MO KANSAS CITY	41	42	59.8	323.0	16775	1685	16557	1681	1.3	0.2	100.0
MO KANSAS CITY	50	21	52.0	341.0	17066	1690	16248	1658	2.0	0.1	100.0
MO KANSAS CITY	62	34	372.1	340.0	23421	1840	23174	1829	0.0	0.0	99.7
MO KIRKSVILLE	3	51	3849.8	339.0	34942	347	27520	258	0.0	0.0	100.0
MO POPLAR BLUFF	15	16	50.0	183.0	7828	104	7850	107	0.1	0.0	99.0
MO SEDALIA	6	45	5000.0	235.0	29458	544	24199	399	0.0	0.0	100.0
MO SPRINGFIELD	3	44	3705.2	622.0	50548	788	42131	668	0.0	0.0	99.7
MO SPRINGFIELD	10	22	1779.5	631.0	45619	751	40987	682	0.3	1.5	100.0
MO SPRINGFIELD	21	23	76.5	546.0	24658	471	24199	466	5.4	2.2	99.6
MO SPRINGFIELD	27	15	412.8	515.0	25624	480	24460	470	0.0	0.0	99.8

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MO SPRINGFIELD	33	32	408.4	596.0	26639	511	26421	511	0.3	0.1	99.2
MO ST. JOSEPH	2	44	5000.0	247.0	30208	1436	28707	1484	0.0	0.0	99.5

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MO ST. JOSEPH	16	14	372.0	326.0	23383	1590	22470	1476	0.3	0.5	100.0
MO ST. LOUIS	2	41	3908.9	332.0	35423	2778	29547	2679	0.0	0.0	100.0
MO ST. LOUIS	4	34	3933.6	335.0	35401	2789	30391	2725	0.0	0.0	100.0
MO ST. LOUIS	5	48	3839.2	332.0	35059	2780	33983	2766	0.0	0.0	98.8
MO ST. LOUIS	9	26	1856.2	326.0	30259	2705	24875	2621	0.0	0.0	100.0
MO ST. LOUIS	11	35	1906.3	308.0	29211	2708	26834	2671	0.3	0.0	100.0
MO ST. LOUIS	24	14	190.7	305.0	19143	2506	18764	2503	0.2	0.2	100.0
MO ST. LOUIS	30	21	120.4	335.0	19988	2545	19821	2543	0.2	0.1	100.0
MS BILOXI	13	28	1540.0	408.0	34432	1096	27971	727	0.0	0.0	100.0
MS BILOXI	19	18	89.0	478.0	19640	582	19302	570	2.1	0.5	100.0
MS BOONEVILLE	12	32	705.9	229.0	15935	295	13760	261	0.0	0.0	100.0
MS BUDE	17	15	50.0	341.0	15123	210	13770	188	2.7	6.1	99.5
MS COLUMBUS	4	47	3912.6	610.0	50631	769	43268	650	0.0	0.0	99.7
MS GREENVILLE	15	17	144.2	271.0	14468	247	14468	247	0.8	1.5	100.0
MS GREENWOOD	6	51	3910.1	597.0	50869	773	40584	597	0.0	0.0	99.8
MS GREENWOOD	23	24	50.0	317.0	14370	239	14340	239	0.4	0.2	100.0
MS GULFPORT	25	16	140.7	488.0	21569	750	21376	730	1.1	6.5	99.5
MS HATTIESBURG	22	23	50.0	244.0	13901	267	13814	267	0.5	0.3	100.0
MS HOLLY SPRINGS	40	39	245.4	142.0	10007	1026	9994	1026	1.2	0.0	99.4
MS JACKSON	3	50	3887.7	610.0	47356	915	35284	735	0.0	0.0	100.0
MS JACKSON	12	36	1577.6	497.0	39890	785	33621	718	0.0	0.0	100.0
MS JACKSON	16	32	345.8	359.0	20631	565	20381	563	2.8	1.5	99.9
MS JACKSON	29	26	50.0	598.0	24488	627	24349	622	1.9	1.5	100.0
MS JACKSON	40	41	50.0	369.0	18293	548	18256	545	0.0	0.0	99.9
MS LAUREL	7	43	3437.7	155.0	21558	346	19421	327	0.0	0.0	100.0
MS MERIDIAN	11	34	3437.7	165.0	22405	293	19981	258	5.8	2.5	100.0
MS MERIDIAN	14	20	50.0	369.0	16256	289	15659	280	0.7	0.5	99.9
MS MERIDIAN	24	21	50.0	177.0	9546	142	9497	142	0.4	0.2	99.8
MS MERIDIAN	30	19	60.5	187.0	10813	161	10930	163	5.3	2.5	98.6
MS MISSISSIPPI STA	2	49	3365.0	381.0	37883	554	30124	423	0.0	0.0	100.0
MS NATCHEZ	48	49	167.0	316.0	16146	193	16138	193	0.4	0.6	100.0
MS OXFORD	18	25	50.0	423.0	17005	264	17008	264	0.6	0.7	100.0
MS TUPELO	9	8	8.3	542.0	40620	657	39144	623	0.0	0.0	99.5
MS WEST POINT	27	16	121.0	512.0	21636	410	21511	408	0.3	0.2	99.9
MT BILLINGS	2	22	5000.0	165.0	24050	136	23675	136	0.0	0.0	98.8
MT BILLINGS	6	32	5000.0	249.0	27815	136	26316	135	0.0	0.0	99.3
MT BILLINGS	8	11	5.5	229.0	22068	133	21199	128	0.0	0.0	100.0
MT BOZEMAN	7	16	175.7	249.0	8800	59	8945	60	0.0	0.0	97.0
MT BOZEMAN	9	15	50.0	33.0	2282	46	2212	46	0.0	0.0	99.6
MT BUTTE	4	27	5000.0	576.0	33051	132	40130	143	0.0	0.0	81.8
MT BUTTE	6	43	5000.0	591.0	31494	130	38368	140	0.0	0.0	81.3

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
MT BUTTE	18	19	178.4	596.0	14258	68	13128	65	0.0	0.0	100.0
MT GLENDIVE	5	43	397.8	152.0	13371	14	11438	12	0.0	0.0	99.5

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
MT GREAT FALLS	3	45	5000.0	180.0	23275	89	24027	89	0.0	0.0	95.3
MT GREAT FALLS	5	44	5000.0	180.0	22794	89	23200	89	0.0	0.0	96.2
MT GREAT FALLS	16	38	108.5	319.0	14299	84	14237	84	0.0	0.0	100.0
MT HARDIN	4	49	4515.5	323.0	30768	135	29932	136	0.0	0.0	98.2
MT HELENA	12	14	551.8	686.0	31299	148	29533	147	0.0	0.0	100.0
MT KALISPELL	9	39	100.4	850.0	23851	85	23578	81	0.0	0.0	98.2
MT LEWISTOWN	13	21	50.0	647.0	15271	15	13648	14	0.0	0.0	100.0
MT MILES CITY	3	35	54.3	33.0	5217	11	5496	11	0.0	0.0	94.7
MT MISSOULA	8	35	2933.3	655.0	33701	130	33655	126	0.1	0.0	97.9
MT MISSOULA	13	36	3267.1	610.0	34473	131	34133	130	0.0	0.0	99.3
MT MISSOULA	23	40	126.4	642.0	16950	116	16565	115	0.0	0.0	100.0
NC ASHEVILLE	13	27	895.8	853.0	36588	1912	33298	1801	0.1	0.1	99.6
NC ASHEVILLE	21	54	273.5	765.0	25861	1439	25211	1405	0.3	0.1	99.2
NC ASHEVILLE	33	58	221.2	816.0	20979	1360	20329	1311	1.6	1.5	97.4
NC ASHEVILLE	62	45	50.0	337.0	4049	273	3370	231	1.1	0.4	100.0
NC BELMONT	46	47	411.3	594.0	32983	2350	29624	2148	1.3	0.3	98.7
NC BURLINGTON	16	57	82.8	256.0	12899	1205	10333	920	0.7	0.1	99.8
NC CHAPEL HILL	4	44	3459.2	469.0	42896	2943	30729	2261	0.0	0.0	100.0
NC CHARLOTTE	3	51	3917.6	567.0	46370	3184	35830	2392	0.1	0.1	98.4
NC CHARLOTTE	9	53	1531.0	359.0	31335	2259	24306	1856	0.0	0.0	100.0
NC CHARLOTTE	18	24	114.8	366.0	21008	1741	18719	1568	10.2	4.7	100.0
NC CHARLOTTE	36	22	412.3	595.0	33876	2363	31395	2282	2.2	0.9	99.8
NC CHARLOTTE	42	38	66.5	390.0	19031	1652	18688	1613	10.1	3.6	98.2
NC COLUMBIA	2	48	3998.4	302.0	34184	774	28096	245	0.0	0.0	100.0
NC CONCORD	58	39	413.2	422.0	27343	2269	26120	2207	16.9	12.2	100.0
NC DURHAM	11	59	1757.6	607.0	45222	2402	38855	2110	4.0	1.3	100.0
NC DURHAM	28	27	409.9	585.0	33559	2008	34287	2068	6.4	4.0	97.0
NC FAYETTEVILLE	40	52	413.1	561.0	33790	2330	30909	2237	4.8	11.7	99.8
NC FAYETTEVILLE	62	36	50.0	256.0	13696	680	13758	686	0.0	0.0	99.3
NC GOLDSBORO	17	18	417.2	480.0	28547	1841	28290	1808	2.5	0.9	97.2
NC GREENSBORO	2	32	3917.7	561.0	46156	3380	37034	2446	0.0	0.0	99.5
NC GREENSBORO	48	35	54.9	517.0	22609	1683	21330	1556	2.9	1.7	100.0
NC GREENSBORO	61	33	50.0	168.0	9338	1021	9434	1031	1.9	0.8	96.9
NC GREENVILLE	9	58	1686.9	573.0	41994	1200	34207	1056	1.7	1.0	100.0
NC GREENVILLE	14	15	50.0	209.0	10447	447	10359	429	0.0	0.0	100.0
NC GREENVILLE	25	21	56.5	351.0	14662	620	13754	584	3.2	1.3	100.0
NC HICKORY	14	15	50.0	183.0	7994	517	7083	468	2.0	1.1	100.0
NC HIGH POINT	8	54	1538.8	387.0	32204	2338	25567	1803	2.0	1.2	100.0
NC JACKSONVILLE	19	29	210.4	561.0	22904	702	22901	702	0.2	0.1	100.0
NC KANNAPOLIS	64	25	50.0	86.0	3129	550	2845	409	0.0	0.0	100.0
NC LEXINGTON	20	19	139.3	297.0	16406	1358	15943	1309	1.4	0.7	99.9

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION		EXISTING NTSC				DTV/ NTSC AREA MATCH (%)
							CURRENT SERVICE		NEW INTERFERENCE		
					AREA (Sq km)	PEOPLE (thous)	AREA (Sq km)	PEOPLE (thous)	AREA (% NL Area)	PEOPLE (% NL Pop)	
NC LINVILLE	17	59	101.9	546.0	16410	768	15718	737	0.6	0.2	99.2
NC MOREHEAD CITY	8	24	2499.5	249.0	19984	305	13899	97	0.0	0.0	100.0

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NC NEW BERN	12	32	1727.9	591.0	42267	1155	34549	859	0.0	0.0	100.0
NC RALEIGH	5	34	3911.3	604.0	51805	2746	41320	2329	0.0	0.0	100.0
NC RALEIGH	22	42	412.0	510.0	28898	1954	27019	1858	3.9	2.2	99.4
NC RALEIGH	50	43	417.2	449.0	28634	1995	28192	1944	6.5	5.8	98.9
NC ROANOKE RAPIDS	36	51	76.4	368.0	19437	538	18649	518	2.2	1.9	100.0
NC ROCKY MOUNT	47	46	377.3	371.0	18586	1236	17876	1199	2.6	3.4	100.0
NC WASHINGTON	7	53	1736.5	594.0	44811	1297	37020	1102	0.0	0.0	100.0
NC WILMINGTON	3	10	18.3	594.0	49151	979	42099	750	0.0	0.0	99.9
NC WILMINGTON	6	49	3917.7	588.0	51717	1706	39136	1185	0.0	0.0	100.0
NC WILMINGTON	26	25	345.6	500.0	21324	445	21321	445	0.0	0.0	100.0
NC WILMINGTON	39	16	356.1	553.0	27195	643	26983	638	0.2	1.0	100.0
NC WILSON	30	55	107.4	539.0	21629	1246	21446	1228	1.5	0.7	100.0
NC WINSTON-SALEM	12	41	1771.2	604.0	41615	2339	33837	2023	2.1	1.6	100.0
NC WINSTON-SALEM	26	66	408.9	504.0	23652	1640	22773	1592	0.2	0.2	99.9
NC WINSTON-SALEM	45	29	409.9	597.0	26918	1796	24473	1671	3.5	2.8	100.0
ND BISMARCK	3	31	2429.0	425.0	38166	124	29893	111	0.0	0.0	100.0
ND BISMARCK	5	25	3304.9	427.0	40747	126	33712	117	0.0	0.0	100.0
ND BISMARCK	12	23	1573.2	466.0	37137	124	32317	113	0.0	0.0	100.0
ND BISMARCK	17	16	50.0	290.0	12903	89	12728	89	0.8	0.1	100.0
ND DEVILS LAKE	8	57	1575.4	451.0	36977	170	35374	169	0.0	0.0	99.9
ND DICKINSON	2	46	5000.0	256.0	30528	47	29687	45	0.0	0.0	100.0
ND DICKINSON	7	18	3171.5	223.0	24811	38	21031	34	0.0	0.0	100.0
ND DICKINSON	9	20	2075.8	246.0	24108	43	21976	39	0.0	0.0	100.0
ND ELLENDALE	19	20	50.0	179.0	8185	12	8153	12	3.4	1.1	100.0
ND FARGO	6	39	3609.0	351.0	36990	339	31304	251	0.0	0.0	100.0
ND FARGO	11	56	1768.7	610.0	42422	348	40193	324	0.0	0.0	93.1
ND FARGO	13	21	1117.9	344.0	30107	240	27605	229	0.0	0.0	100.0
ND FARGO	15	19	281.5	379.0	17647	241	17644	241	0.0	0.0	100.0
ND GRAND FORKS	2	58	3113.9	408.0	36213	172	33079	167	0.0	0.0	100.0
ND JAMESTOWN	7	14	3327.6	135.0	20297	50	15759	42	0.0	0.0	100.0
ND MINOT	6	45	4169.3	323.0	35187	102	32500	97	0.0	0.0	100.0
ND MINOT	10	59	2153.6	207.0	22444	80	20765	77	0.0	0.0	100.0
ND MINOT	13	56	1763.6	344.0	30978	94	29139	90	0.0	0.0	100.0
ND MINOT	14	15	50.0	829.0	11085	66	11058	66	11.4	3.3	100.0
ND PEMBINA	12	56	1540.7	427.0	27346	31	24939	34	0.0	0.0	93.6
ND VALLEY CITY	4	38	3803.4	619.0	52695	408	46760	377	0.0	0.0	100.0
ND WILLISTON	4	51	3848.8	278.0	29917	51	25853	45	0.0	0.0	99.9
ND WILLISTON	8	52	1063.9	323.0	25877	43	24587	42	0.0	0.0	100.0
ND WILLISTON	11	14	1454.6	299.0	24553	44	22906	43	0.0	0.0	99.9
NE ALLIANCE	13	23	1586.1	469.0	37275	91	31146	83	0.0	0.0	100.0
NE BASSETT	7	20	1567.6	453.0	36801	52	33311	38	0.0	0.0	100.0

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NE GRAND ISLAND	11	14	1659.6	308.0	29115	208	24800	184	0.0	0.0	100.0
NE GRAND ISLAND	17	19	73.8	187.0	10186	142	10186	142	0.4	0.0	100.0

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NE HASTINGS	5	38	5000.0	223.0	28810	220	26401	211	0.0	0.0	99.9
NE HASTINGS	29	30	75.9	372.0	15463	148	15460	148	0.8	0.6	100.0
NE HAYES CENTER	6	47	5000.0	216.0	29085	85	26974	80	0.0	0.0	100.0
NE KEARNEY	13	23	1494.9	338.0	30654	213	27313	198	0.0	0.0	100.0
NE LEXINGTON	3	44	4048.4	323.0	34629	169	25825	117	0.0	0.0	100.0
NE LINCOLN	8	21	1545.5	440.0	36293	614	29036	475	0.0	0.0	100.0
NE LINCOLN	10	25	1563.1	454.0	37393	768	33748	672	0.4	2.1	100.0
NE LINCOLN	12	40	2730.2	253.0	26784	1041	24515	1024	0.0	0.0	100.0
NE MCCOOK	8	12	4.4	216.0	24053	51	21777	47	0.0	0.0	100.0
NE MERRIMAN	12	16	1778.1	328.0	29133	30	24384	23	0.0	0.0	100.0
NE NORFOLK	19	16	86.0	348.0	14827	138	13695	133	4.2	7.3	99.9
NE NORTH PLATTE	2	41	5000.0	192.0	27133	66	24359	61	0.0	0.0	100.0
NE NORTH PLATTE	9	15	1755.2	311.0	29117	66	25878	61	0.0	0.0	100.0
NE OMAHA	3	47	3175.2	418.0	40084	1142	30652	1045	0.0	0.0	100.0
NE OMAHA	6	51	3168.9	418.0	39705	1136	37129	1118	0.0	0.0	99.9
NE OMAHA	7	20	1544.3	415.0	34764	1092	29752	1002	0.0	0.0	100.0
NE OMAHA	15	18	403.5	453.0	23507	1001	23449	1002	0.5	0.1	99.4
NE OMAHA	26	17	50.0	130.0	8850	693	8737	691	4.4	0.7	99.4
NE OMAHA	42	43	412.8	577.0	34926	1114	34471	1110	1.0	0.2	100.0
NE SCOTTSBLUFF	4	34	3917.7	610.0	50398	108	40583	92	0.0	0.0	99.9
NE SCOTTSBLUFF	10	11	4.2	256.0	23476	74	22324	71	0.0	0.0	98.8
NE SUPERIOR	4	34	3792.1	344.0	36374	240	25171	120	0.0	0.0	100.0
NH BERLIN	40	25	50.0	91.0	2504	23	1917	19	0.0	0.0	100.0
NH CONCORD	21	24	96.1	320.0	16812	1761	16182	1707	4.4	2.1	99.8
NH DERRY	50	32	267.2	213.0	10915	3327	10706	3380	3.8	20.3	99.1
NH DURHAM	11	57	2499.2	302.0	27064	3836	24698	2652	1.3	1.1	99.3
NH KEENE	52	46	50.0	329.0	8134	221	6249	158	2.0	1.8	100.0
NH LITTLETON	49	48	50.0	390.0	7571	77	6525	65	0.1	0.0	100.0
NH MANCHESTER	9	17	2250.7	314.0	27292	4842	23858	4324	2.3	0.6	99.9
NH MERRIMACK	60	18	66.2	308.0	12324	2321	11747	1997	6.4	2.7	99.4
NJ ATLANTIC CITY	53	50	50.0	85.0	1501	212	1501	212	0.3	0.0	100.0
NJ ATLANTIC CITY	62	49	268.7	133.0	12437	1175	10127	784	0.0	0.0	100.0
NJ BURLINGTON	48	26	132.8	335.0	19654	6807	17730	6479	0.2	0.1	99.9
NJ CAMDEN	23	66	120.9	271.0	16878	5846	16990	5919	4.6	4.6	99.3
NJ LINDEN	47	28	370.6	460.0	16065	16434	15387	16173	2.5	0.6	99.9
NJ MONTCLAIR	50	56	374.9	243.0	16707	15913	14891	15438	11.9	7.3	99.1
NJ NEW BRUNSWICK	58	8	3.2	223.0	12733	11550	9503	11149	2.4	1.6	97.4
NJ NEWARK	13	33	253.5	500.0	27125	17982	23402	17121	1.3	0.6	100.0
NJ NEWARK	68	44	166.0	439.0	18468	16390	16989	15866	0.3	0.0	99.8
NJ NEWTON	63	61	107.3	223.0	12603	9922	12301	10130	4.4	9.4	96.5
NJ PATERSON	41	42	137.6	421.0	18377	16664	17554	16273	1.6	0.3	99.9

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NJ SECAUCUS	9	18	260.5	500.0	27029	17880	22975	16677	3.1	1.0	99.9
NJ TRENTON	52	43	91.6	271.0	15601	9161	13835	8009	6.0	2.7	99.4

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NJ VINELAND	65	21	251.3	280.0	19049	6200	18817	6101	8.5	4.9	99.5
NJ WEST MILFORD	66	23	50.0	217.0	4923	5315	3267	2671	1.9	0.7	100.0
NJ WILDWOOD	40	34	50.0	128.0	9506	451	9526	451	7.6	6.2	99.8
NM ALBUQUERQUE	4	48	717.6	1280.0	45878	759	51046	780	0.0	0.0	88.9
NM ALBUQUERQUE	5	44	714.0	1289.0	46093	759	51336	771	0.0	0.0	89.8
NM ALBUQUERQUE	7	8	3.2	1292.0	42113	756	39164	750	0.0	0.0	99.9
NM ALBUQUERQUE	13	9	3.2	1287.0	44426	759	40780	751	0.0	0.0	100.0
NM ALBUQUERQUE	23	24	78.6	1259.0	28250	732	27600	728	0.1	0.0	100.0
NM ALBUQUERQUE	32	31	50.0	1236.0	8703	629	8129	627	0.0	0.0	100.0
NM ALBUQUERQUE	41	40	74.1	1266.0	24511	723	23937	719	0.1	0.2	100.0
NM ALBUQUERQUE	50	49	97.8	1276.0	34693	738	33227	733	0.4	0.1	100.0
NM CARLSBAD	6	40	3694.1	366.0	35448	160	32817	118	0.0	0.0	99.4
NM CLOVIS	12	21	1678.2	204.0	21773	84	18276	82	0.0	0.0	100.0
NM FARMINGTON	12	15	3437.7	125.0	18585	109	16772	103	0.0	0.0	100.0
NM GALLUP	3	29	321.6	33.0	7235	53	8104	56	0.0	0.0	88.9
NM HOBBS	29	30	50.0	159.0	2878	39	2878	39	0.0	0.0	100.0
NM LAS CRUCES	22	16	58.9	137.0	9470	191	8716	128	0.1	0.0	100.0
NM LAS CRUCES	48	28	252.8	134.0	8054	579	7759	571	4.0	16.8	99.9
NM PORTALES	3	33	3806.9	351.0	36368	188	35603	188	0.0	0.0	100.0
NM ROSWELL	8	15	1700.2	536.0	41701	163	40179	161	0.7	0.0	100.0
NM ROSWELL	10	17	1780.8	610.0	44856	182	38778	168	0.0	0.0	100.0
NM ROSWELL	27	26	50.0	115.0	5522	58	5501	58	0.0	0.0	100.0
NM SANTA FE	2	43	769.0	1275.0	46571	760	52848	785	0.0	0.0	88.0
NM SANTA FE	11	16	1429.9	618.0	35917	717	33452	717	0.0	0.0	100.0
NM SILVER CITY	10	12	3.2	485.0	16717	46	13112	42	0.0	0.0	100.0
NV HENDERSON	5	27	5000.0	363.0	23145	732	28041	733	0.0	0.0	79.5
NV LAS VEGAS	3	49	5000.0	387.0	22550	732	31468	738	0.0	0.0	71.6
NV LAS VEGAS	8	7	10.1	610.0	31952	736	27385	733	0.0	0.0	99.8
NV LAS VEGAS	10	11	7.4	372.0	21925	731	19921	730	0.0	0.0	99.8
NV LAS VEGAS	13	17	1780.8	610.0	29218	735	25937	732	0.0	0.0	100.0
NV LAS VEGAS	15	16	64.4	564.0	15837	725	14705	727	0.0	0.4	100.0
NV LAS VEGAS	21	22	50.0	353.0	8873	724	7541	723	0.8	0.2	99.9
NV LAS VEGAS	33	32	77.9	581.0	13237	727	12427	727	0.0	0.0	100.0
NV PARADISE	39	38	68.2	367.0	7920	722	7650	719	0.0	0.0	100.0
NV RENO	2	39	3340.5	656.0	27965	389	35729	452	0.0	0.0	77.5
NV RENO	4	48	634.8	128.0	7394	285	12097	339	0.0	0.0	60.8
NV RENO	5	43	65.4	140.0	4973	263	7943	315	0.0	0.0	62.5
NV RENO	8	9	5.5	893.0	37820	504	34720	494	0.0	0.0	99.7
NV RENO	11	18	895.8	856.0	30674	400	28523	395	0.0	0.0	99.4
NV RENO	21	20	50.0	189.0	5368	267	4923	260	1.3	0.3	99.7
NV RENO	27	26	137.8	891.0	19185	387	17695	379	0.1	0.0	99.9

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NY ALBANY	10	26	3141.4	305.0	22203	1318	20153	1234	0.1	0.0	99.9
NY ALBANY	13	4	2.0	357.0	23331	1319	19430	1181	0.3	0.0	99.9

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NY ALBANY	23	21	210.3	366.0	16624	1174	15747	1138	3.9	1.9	99.7
NY AMSTERDAM	55	49	337.9	223.0	9910	893	9254	849	0.0	0.0	100.0
NY BATH	14	20	50.0	318.0	13494	385	12553	312	2.2	2.1	99.7
NY BINGHAMTON	12	8	3.3	369.0	23610	873	22593	775	0.3	0.8	98.4
NY BINGHAMTON	34	4	1.0	281.0	15534	664	12914	474	9.2	3.5	99.9
NY BINGHAMTON	40	42	50.0	375.0	13553	503	12209	458	1.0	0.3	100.0
NY BINGHAMTON	46	7	3.2	375.0	15653	668	12892	492	2.9	1.0	100.0
NY BUFFALO	2	45	4726.8	287.0	32881	2225	27411	1723	0.1	0.0	99.3
NY BUFFALO	4	38	4261.7	366.0	34830	1863	32995	1924	0.6	0.2	98.6
NY BUFFALO	7	42	454.7	433.0	27225	1829	22065	1536	2.4	1.2	99.7
NY BUFFALO	17	15	144.3	330.0	19925	1374	19608	1361	0.7	0.4	100.0
NY BUFFALO	23	14	50.0	314.0	15588	1314	15264	1305	3.0	1.2	99.9
NY BUFFALO	29	33	51.4	280.0	15405	1311	15323	1307	4.8	2.4	100.0
NY BUFFALO	49	43	405.2	376.0	18058	1465	18045	1467	0.4	0.1	98.1
NY CARTHAGE	7	25	3437.4	221.0	24527	278	22660	256	1.8	1.5	99.9
NY CORNING	48	26	50.0	166.0	2580	118	2013	89	0.5	2.6	100.0
NY ELMIRA	18	50	50.0	372.0	10007	342	8475	273	1.0	2.0	100.0
NY ELMIRA	36	25	50.0	320.0	11727	388	10596	325	0.6	0.2	98.5
NY GARDEN CITY	21	17	146.3	122.0	9961	12113	8646	11152	3.8	4.1	99.8
NY JAMESTOWN	26	27	50.0	180.0	7497	203	6104	163	12.4	4.0	99.6
NY KINGSTON	62	69	475.1	591.0	20997	2261	17347	1626	0.0	0.0	99.9
NY NEW YORK	2	51	504.4	482.0	27100	17870	24484	17005	2.1	0.4	97.1
NY NEW YORK	4	34	383.3	515.0	28996	18205	25481	17227	0.6	0.1	96.5
NY NEW YORK	5	45	383.3	515.0	29272	18216	25473	17202	1.2	0.2	98.6
NY NEW YORK	7	22	275.1	491.0	26965	17964	24135	17167	1.0	0.3	99.3
NY NEW YORK	11	27	246.5	506.0	27501	18026	23479	17128	3.4	1.9	100.0
NY NEW YORK	25	40	142.8	395.0	17823	16535	17556	16480	8.1	2.4	99.8
NY NEW YORK	31	38	192.7	475.0	17976	16428	17818	16354	8.9	2.3	98.2
NY NORTH POLE	5	38	701.1	607.0	29995	408	26059	420	0.0	0.0	93.5
NY NORWOOD	18	15	50.0	243.0	12272	142	11656	130	0.0	0.0	100.0
NY PLATTSBURGH	57	50	50.0	741.0	16461	280	15743	274	0.0	0.0	99.9
NY POUGHKEEPSIE	54	52	412.6	490.0	19037	2524	16210	1900	0.2	0.2	99.6
NY RIVERHEAD	55	10	3.2	194.0	11081	3494	10935	3499	0.9	4.2	99.6
NY ROCHESTER	8	39	3437.7	152.0	20989	1171	18170	1097	2.0	2.1	99.9
NY ROCHESTER	10	32	3437.7	152.0	21151	1172	17574	1077	0.0	0.0	100.0
NY ROCHESTER	13	59	3437.7	152.0	21335	1183	17107	1096	0.0	0.0	100.0
NY ROCHESTER	21	16	50.0	152.0	8938	989	9362	999	0.0	0.0	94.9
NY ROCHESTER	31	28	50.0	152.0	11220	1007	11065	991	0.5	0.9	100.0
NY SCHENECTADY	6	34	5000.0	311.0	26743	1459	26139	1432	1.0	0.5	95.7
NY SCHENECTADY	17	43	171.4	299.0	16145	1157	15825	1131	4.5	2.3	99.6
NY SCHENECTADY	45	25	204.9	338.0	15211	1143	14609	1080	2.2	2.3	98.6

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NY SMITHTOWN	67	36	120.2	219.0	12508	3686	12084	3179	0.4	0.1	99.9
NY SYRACUSE	3	29	5000.0	305.0	31370	1520	26554	1279	0.1	0.1	99.6

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NY SYRACUSE	5	47	5000.0	290.0	29594	1428	26725	1330	0.9	0.4	99.2
NY SYRACUSE	9	41	326.2	462.0	24593	1290	21461	1205	1.9	0.5	99.7
NY SYRACUSE	24	23	146.1	422.0	21731	1204	21022	1210	1.4	5.6	99.3
NY SYRACUSE	43	44	50.0	432.0	14699	1037	13714	977	1.9	2.8	100.0
NY SYRACUSE	68	35	50.0	448.0	18762	1141	17590	1091	0.0	0.0	100.0
NY UTICA	2	39	1252.5	421.0	26141	1134	22944	689	1.0	0.4	96.3
NY UTICA	20	27	50.0	244.0	12664	454	11853	425	2.7	0.5	100.0
NY UTICA	33	22	50.0	197.0	3746	306	3164	271	0.2	0.0	100.0
NY WATERTOWN	16	17	50.0	369.0	15527	194	15052	189	1.7	2.3	99.7
NY WATERTOWN	50	51	50.0	387.0	15349	180	14955	177	4.1	2.6	100.0
OH AKRON	23	58	374.9	293.0	20433	3711	20112	3577	0.0	0.0	97.8
OH AKRON	49	48	50.0	299.0	14134	3226	13817	3141	5.2	13.0	99.9
OH AKRON	55	31	370.6	356.0	20759	3589	19934	3533	1.6	1.5	99.9
OH ALLIANCE	45	46	81.0	253.0	15109	2218	13751	1954	5.3	4.2	100.0
OH ATHENS	20	27	50.0	244.0	13303	463	12963	447	1.7	1.2	100.0
OH BOWLING GREEN	27	20	50.0	320.0	15796	1043	16004	1108	0.0	0.0	98.7
OH CAMBRIDGE	44	35	50.0	393.0	16140	614	15147	567	1.2	0.9	100.0
OH CANTON	17	59	50.0	137.0	8475	1277	7854	1215	0.6	0.2	99.7
OH CANTON	67	47	50.0	88.0	8741	1312	8648	1319	0.0	0.0	99.1
OH CHILLICOTHE	53	44	155.1	207.0	12292	1383	11709	1351	4.5	1.1	99.7
OH CINCINNATI	5	39	4338.6	305.0	33513	3123	27995	2865	0.0	0.0	100.0
OH CINCINNATI	9	10	5.9	305.0	23042	2492	24011	2788	9.0	6.6	91.0
OH CINCINNATI	12	31	1845.6	305.0	28880	2933	25735	2820	13.2	16.6	100.0
OH CINCINNATI	48	29	124.1	326.0	19061	2333	18032	2208	7.6	6.9	99.9
OH CINCINNATI	64	33	373.6	337.0	23578	2833	22272	2793	0.6	2.6	100.0
OH CLEVELAND	3	41	4633.3	305.0	33682	4189	28663	3753	0.0	0.0	99.4
OH CLEVELAND	5	39	4112.9	311.0	33596	4111	26595	3659	0.0	0.0	100.0
OH CLEVELAND	8	4	2.8	305.0	24845	3678	26086	3633	0.0	0.0	89.3
OH CLEVELAND	25	53	112.3	304.0	16055	3148	15099	2990	11.7	5.0	98.4
OH CLEVELAND	61	28	111.0	354.0	19829	3406	20095	3415	1.0	2.7	97.9
OH COLUMBUS	4	12	15.7	274.0	24341	1947	21181	1865	0.9	0.6	94.9
OH COLUMBUS	6	13	15.5	286.0	24537	2040	22889	1849	3.3	2.5	95.0
OH COLUMBUS	10	11	5.6	271.0	22566	1928	22887	1921	7.4	6.3	94.7
OH COLUMBUS	28	56	98.3	293.0	16848	1654	16762	1645	6.0	3.3	96.9
OH COLUMBUS	34	36	50.0	329.0	7406	1230	7386	1226	4.2	1.1	100.0
OH DAYTON	2	50	4315.3	305.0	33551	3475	23929	3057	0.0	0.0	99.9
OH DAYTON	7	57	889.2	348.0	28068	3173	22920	3055	0.0	0.0	99.8
OH DAYTON	16	41	73.0	350.0	18229	2710	17793	2596	0.7	3.9	98.2
OH DAYTON	22	3	1.0	351.0	18714	2452	19134	2698	0.6	1.4	92.6
OH DAYTON	45	58	357.7	357.0	20816	2970	19098	2749	3.4	0.5	99.9
OH LIMA	35	46	50.0	165.0	10392	436	10176	428	0.6	0.4	100.0

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OH LIMA	44	19	50.0	207.0	12260	488	12162	486	0.8	0.3	100.0
OH LORAIN	43	2	1.0	336.0	17232	3105	19513	3321	8.3	5.1	87.4

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OH MANSFIELD	68	38	50.0	180.0	8741	418	8467	410	0.0	0.0	100.0
OH NEWARK	51	24	50.0	189.0	9172	1114	8678	1072	0.1	0.0	100.0
OH OXFORD	14	28	50.0	91.0	5479	1014	5125	907	1.2	3.5	100.0
OH PORTSMOUTH	30	23	63.4	237.0	14382	492	13880	450	4.1	2.0	99.2
OH PORTSMOUTH	42	17	50.0	382.0	15188	530	14315	462	4.8	2.8	100.0
OH SANDUSKY	52	15	56.9	236.0	14234	700	14370	716	1.3	9.7	99.0
OH SHAKER HEIGHTS	19	20	238.0	351.0	20168	3413	17482	3042	0.6	0.6	99.5
OH SPRINGFIELD	26	18	50.0	149.0	11675	1264	11639	1262	2.3	3.7	99.6
OH STEUBENVILLE	9	57	2226.0	290.0	27632	3580	21971	2697	0.0	0.0	99.7
OH TOLEDO	11	66	1639.4	305.0	29050	4252	26947	4003	3.8	0.6	100.0
OH TOLEDO	13	42	1606.4	305.0	24858	2537	22691	2290	3.7	1.1	99.5
OH TOLEDO	24	34	329.2	424.0	22776	2105	22467	2084	5.5	1.3	100.0
OH TOLEDO	30	29	50.0	314.0	15911	1668	15847	1663	0.4	0.1	100.0
OH TOLEDO	36	17	103.1	372.0	17431	1388	17260	1381	5.8	2.2	100.0
OH TOLEDO	40	6	1.0	198.0	13622	1049	14630	1097	0.0	0.0	91.8
OH YOUNGSTOWN	21	36	248.3	302.0	20004	2521	18221	1863	7.8	6.9	100.0
OH YOUNGSTOWN	27	29	50.0	436.0	19382	2442	18680	2270	3.7	7.5	100.0
OH YOUNGSTOWN	33	34	50.0	177.0	11288	1186	11127	1166	4.5	4.5	100.0
OH ZANESVILLE	18	40	50.0	162.0	10174	370	9911	361	2.0	3.4	100.0
OK ADA	10	26	1572.2	445.0	37131	454	32793	388	0.0	0.0	100.0
OK ARDMORE	12	20	1105.7	543.0	39729	760	30153	392	0.0	0.0	100.0
OK BARTLESVILLE	17	29	265.0	316.0	15272	784	14813	771	8.6	2.9	99.4
OK CHEYENNE	12	8	6.0	299.0	27574	95	23225	79	0.0	0.0	100.0
OK CLAREMORE	35	36	143.8	256.0	14126	784	14054	782	2.2	1.7	99.9
OK ENID	20	7	3.2	136.0	6526	70	6525	70	1.8	0.5	100.0
OK EUFAULA	3	32	3315.6	399.0	35186	641	25160	347	0.0	0.0	98.7
OK LAWTON	7	22	1584.6	320.0	29935	392	27285	378	0.3	0.1	100.0
OK OKLAHOMA CITY	4	46	3491.7	469.0	42769	1363	38754	1297	0.0	0.0	99.1
OK OKLAHOMA CITY	5	28	3231.2	464.0	40088	1316	33261	1230	0.0	0.0	100.0
OK OKLAHOMA CITY	9	21	1575.1	465.0	37950	1300	34192	1262	0.2	0.1	100.0
OK OKLAHOMA CITY	13	27	1575.1	465.0	37933	1299	32525	1237	0.0	0.0	100.0
OK OKLAHOMA CITY	14	18	50.0	344.0	15271	1013	15292	1013	2.1	0.8	99.8
OK OKLAHOMA CITY	25	24	231.2	469.0	24123	1135	24048	1134	0.2	0.1	100.0
OK OKLAHOMA CITY	34	33	52.9	369.0	18427	1075	18381	1075	0.0	0.0	100.0
OK OKLAHOMA CITY	43	16	116.3	475.0	24434	1137	24153	1133	4.0	1.2	100.0
OK OKLAHOMA CITY	52	17	50.0	183.0	12313	999	12325	999	0.0	0.0	99.4
OK OKLAHOMA CITY	62	40	50.0	144.0	5006	843	4936	842	0.0	0.0	100.0
OK OKMULGEE	44	45	50.0	164.0	9916	667	9258	656	3.5	4.5	100.0
OK TULSA	2	50	3916.3	558.0	48302	1267	40216	1160	0.0	0.0	100.0
OK TULSA	6	49	3917.7	573.0	49329	1286	38744	1100	0.0	0.0	100.0
OK TULSA	8	15	1724.4	578.0	43290	1177	36759	1098	0.0	0.0	100.0

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OK TULSA	11	38	1601.1	521.0	40699	1149	35480	1081	0.0	0.0	100.0
OK TULSA	23	22	223.5	399.0	24322	973	24236	974	1.2	0.9	99.2

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OK TULSA	41	42	69.6	460.0	22000	925	21371	920	0.0	0.0	100.0
OK TULSA	47	48	90.5	460.0	19240	897	19079	894	1.0	0.1	99.8
OK TULSA	53	31	417.2	460.0	28917	1023	28462	1018	0.0	0.0	99.1
OR BEND	3	43	3632.4	227.0	19290	104	22425	104	0.0	0.0	85.2
OR BEND	21	11	3.2	197.0	5857	86	5177	80	0.0	0.0	100.0
OR COOS BAY	11	21	50.0	192.0	9136	67	8889	65	0.0	0.0	100.0
OR COOS BAY	23	22	50.0	190.0	2760	51	2376	46	2.2	0.6	100.0
OR CORVALLIS	7	14	2632.2	375.0	26518	1135	23748	832	0.0	0.0	99.5
OR EUGENE	9	19	1780.7	539.0	32415	683	29222	565	0.0	0.0	99.5
OR EUGENE	13	18	1575.9	451.0	28578	668	25309	505	0.0	0.0	99.7
OR EUGENE	16	24	116.0	512.0	16247	405	15860	404	1.1	0.5	99.1
OR EUGENE	28	29	50.0	276.0	8539	321	7744	313	0.0	0.0	100.0
OR EUGENE	34	33	192.2	259.0	9217	385	8868	379	0.0	0.0	100.0
OR KLAMATH FALLS	2	40	3219.5	671.0	37253	88	44737	156	0.0	0.0	82.3
OR KLAMATH FALLS	22	16	50.0	656.0	7181	56	5802	55	0.0	0.0	100.0
OR KLAMATH FALLS	31	30	50.0	691.0	5263	55	4493	54	0.0	0.0	100.0
OR LA GRANDE	13	8	3.2	787.0	19450	46	14822	40	0.0	0.0	100.0
OR MEDFORD	5	42	2105.2	823.0	36936	323	45555	370	0.0	0.0	81.1
OR MEDFORD	8	15	973.9	818.0	34941	330	33404	322	0.0	0.0	99.7
OR MEDFORD	10	20	627.5	1009.0	35171	276	34422	271	0.0	0.0	99.5
OR MEDFORD	12	17	973.9	823.0	34625	329	31923	318	0.0	0.0	100.0
OR MEDFORD	26	27	50.0	428.0	6224	158	5583	148	0.0	0.0	100.0
OR PORTLAND	2	46	3531.7	475.0	31516	2001	36124	1990	0.0	0.0	86.6
OR PORTLAND	6	40	3898.3	533.0	33866	2024	36747	2008	0.0	0.0	90.9
OR PORTLAND	8	26	1648.9	539.0	31070	1983	28169	1838	0.1	0.0	99.6
OR PORTLAND	10	42	1617.6	530.0	29768	1957	29225	1894	0.0	0.0	98.5
OR PORTLAND	12	17	1651.3	543.0	31220	1963	28888	1885	0.0	0.0	100.0
OR PORTLAND	24	36	180.7	463.0	17844	1781	16922	1751	3.2	1.4	100.0
OR ROSEBURG	4	39	75.9	305.0	10166	81	12935	96	0.0	0.0	78.6
OR ROSEBURG	36	25	50.0	211.0	3808	68	3052	63	0.4	0.1	100.0
OR ROSEBURG	46	45	50.0	109.0	2205	64	1799	58	1.2	0.4	100.0
OR SALEM	22	20	97.4	363.0	17091	1832	15836	1404	3.5	10.1	100.0
OR SALEM	32	31	458.3	544.0	24151	1919	22831	1852	0.4	0.6	100.0
PA ALLENTOWN	39	53	50.0	302.0	12244	2632	11405	2542	8.1	16.3	99.3
PA ALLENTOWN	69	67	50.0	313.0	12230	2492	11045	2334	1.4	4.1	99.9
PA ALTOONA	10	41	2283.9	338.0	22732	812	21060	765	0.0	0.0	99.0
PA ALTOONA	23	49	50.0	324.0	6717	339	5279	276	0.4	0.1	100.0
PA ALTOONA	47	48	75.7	308.0	13090	562	12147	517	1.6	1.0	100.0
PA BETHLEHEM	60	24	50.0	225.0	4138	815	3338	714	4.8	4.7	100.0
PA CLEARFIELD	3	7	15.7	268.0	27196	738	25601	706	0.0	0.0	97.6
PA ERIE	12	32	2817.1	305.0	28392	737	24609	666	0.0	0.0	100.0

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PA ERIE	24	52	50.0	290.0	12895	460	12534	448	0.1	0.0	100.0
PA ERIE	35	16	50.0	287.0	11158	430	10841	420	0.5	0.6	100.0

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PA ERIE	54	50	50.0	268.0	13600	435	13944	441	0.7	0.6	96.6
PA ERIE	66	30	50.0	271.0	11750	425	11279	408	1.9	1.4	100.0
PA GREENSBURG	40	51	50.3	299.0	13994	2535	13951	2538	2.2	4.0	98.1
PA HARRISBURG	21	4	1.0	372.0	17302	1782	15458	1624	4.2	3.5	96.9
PA HARRISBURG	27	61	114.4	346.0	14897	1589	14955	1596	2.5	1.7	97.7
PA HARRISBURG	33	34	53.5	427.0	17362	1805	17044	1768	15.4	16.0	98.5
PA HAZLETON	56	5	1.0	329.0	13323	952	9258	538	2.8	1.1	99.8
PA JOHNSTOWN	6	28	4479.8	341.0	29051	2766	27793	2676	0.1	0.0	97.8
PA JOHNSTOWN	8	58	1518.6	368.0	21779	2603	19405	2285	0.0	0.0	99.3
PA JOHNSTOWN	19	30	95.1	363.0	16823	2094	15963	1863	0.0	0.0	98.6
PA LANCASTER	8	58	512.3	415.0	25001	3749	22163	2780	1.6	1.8	99.4
PA LANCASTER	15	63	50.0	415.0	16385	2016	16308	1965	6.1	3.5	97.7
PA PHILADELPHIA	3	64	4627.7	305.0	33034	9506	26070	7557	0.0	0.0	99.9
PA PHILADELPHIA	6	46	2885.3	332.0	32543	9301	27489	7754	0.8	0.2	99.7
PA PHILADELPHIA	10	59	920.0	354.0	26686	8144	24032	7207	0.2	0.2	99.0
PA PHILADELPHIA	17	55	131.9	320.0	18783	6663	18522	6598	3.9	1.5	100.0
PA PHILADELPHIA	29	30	376.0	347.0	22567	7471	22563	7298	6.2	1.5	96.9
PA PHILADELPHIA	35	54	88.6	284.0	11660	5578	11669	5676	16.4	11.0	98.0
PA PHILADELPHIA	57	32	367.4	353.0	18658	6875	17028	6387	4.0	0.8	99.8
PA PITTSBURGH	2	25	4549.5	302.0	30756	3650	27041	3346	1.9	1.8	99.3
PA PITTSBURGH	4	50	4441.2	293.0	30917	3298	25618	3078	1.0	0.5	99.2
PA PITTSBURGH	11	38	1986.6	302.0	26425	3431	23290	3100	0.1	0.0	100.0
PA PITTSBURGH	13	26	3315.3	210.0	23674	3118	20159	2903	0.2	0.0	100.0
PA PITTSBURGH	16	54	50.0	215.0	11160	2438	11048	2423	0.7	0.2	99.4
PA PITTSBURGH	22	42	373.6	280.0	15066	2667	13641	2526	0.9	3.4	100.0
PA PITTSBURGH	53	43	131.3	312.0	17794	2839	17115	2763	4.7	3.2	99.9
PA READING	51	25	414.9	395.0	20082	6868	17633	5229	13.4	16.1	98.5
PA RED LION	49	47	50.0	177.0	10108	1531	9209	1378	3.6	3.6	99.2
PA SCRANTON	16	9	3.2	506.0	21064	1630	16763	1223	4.9	8.9	99.5
PA SCRANTON	22	11	3.2	505.0	24155	1832	20308	1494	5.1	10.1	98.8
PA SCRANTON	38	2	1.0	385.0	18459	1081	14045	814	10.7	5.7	99.4
PA SCRANTON	44	41	51.0	509.0	16026	1241	15142	1104	4.0	4.2	97.5
PA SCRANTON	64	31	50.0	374.0	3899	502	2930	455	7.3	1.5	100.0
PA WILKES-BARRE	28	13	3.2	509.0	24079	1825	21142	1595	6.3	7.2	98.0
PA WILLIAMSPORT	53	17	50.0	222.0	3914	165	2606	121	0.2	0.0	100.0
PA YORK	43	42	128.4	415.0	20891	3106	18497	2460	4.4	7.5	100.0
RI BLOCK ISLAND	69	21	183.6	213.0	13118	1702	12710	1648	0.7	0.4	99.4
RI PROVIDENCE	10	15	1743.9	305.0	26515	5622	24094	5219	4.5	1.6	99.5
RI PROVIDENCE	12	13	5.8	305.0	27386	5977	26294	5503	4.8	1.4	99.2
RI PROVIDENCE	36	41	50.0	182.0	12112	3069	11271	2595	13.6	10.6	100.0
RI PROVIDENCE	64	19	248.0	315.0	16789	4069	15421	3023	4.6	7.6	99.6

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SC ALLENDALE	14	33	50.0	244.0	12330	271	12307	268	0.6	0.5	99.9
SC ANDERSON	40	41	149.1	311.0	15845	1026	15052	989	0.2	0.0	99.7

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SC BEAUFORT	16	18	50.0	390.0	18136	627	18124	627	0.1	0.1	100.0
SC CHARLESTON	2	41	3916.4	594.0	51200	995	45970	825	0.0	0.0	100.0
SC CHARLESTON	4	51	3913.3	597.0	51449	976	42310	717	0.0	0.0	100.0
SC CHARLESTON	5	47	3913.3	597.0	51543	989	46902	833	0.0	0.0	100.0
SC CHARLESTON	7	32	1643.2	564.0	33395	826	30944	757	0.0	0.0	100.0
SC CHARLESTON	24	42	411.5	542.0	27415	667	26294	642	0.0	0.0	100.0
SC CHARLESTON	36	35	50.0	233.0	10996	481	10996	481	0.0	0.0	100.0
SC COLUMBIA	10	8	7.6	472.0	35450	1322	33935	1224	8.9	8.6	98.4
SC COLUMBIA	19	50	413.5	533.0	27196	1012	26332	971	0.4	0.0	99.9
SC COLUMBIA	25	23	229.3	253.0	16321	761	15180	743	0.7	0.3	99.2
SC COLUMBIA	35	34	50.0	314.0	14243	723	14075	717	8.2	3.7	99.8
SC COLUMBIA	57	48	284.6	193.0	14152	729	14011	728	0.2	0.1	100.0
SC CONWAY	23	45	73.5	250.0	15290	424	14818	408	0.0	0.1	100.0
SC FLORENCE	13	56	1745.3	594.0	44181	1428	39658	1319	0.0	0.0	100.0
SC FLORENCE	15	14	67.6	594.0	26530	979	26348	969	0.8	0.4	100.0
SC FLORENCE	21	20	127.8	567.0	21284	732	20781	721	0.0	0.0	100.0
SC FLORENCE	33	17	50.0	241.0	12355	377	12120	375	0.0	0.0	100.0
SC GREENVILLE	4	60	3917.3	610.0	42709	1980	39512	1776	0.0	0.0	94.0
SC GREENVILLE	16	35	50.0	351.0	14943	1051	15069	1049	0.1	0.0	97.7
SC GREENVILLE	29	2	1.0	392.0	21173	1279	19281	1180	1.6	1.2	98.9
SC GREENWOOD	38	52	76.2	235.0	14773	793	14632	768	2.9	3.0	100.0
SC HARDEEVILLE	28	27	415.3	457.0	24200	560	24153	559	0.1	0.0	100.0
SC MYRTLE BEACH	43	30	50.0	183.0	8623	199	8623	199	0.0	0.0	100.0
SC ROCK HILL	30	31	50.0	210.0	11648	1016	11280	993	5.4	2.6	99.6
SC ROCK HILL	55	28	413.1	570.0	32899	2332	31207	2273	7.4	6.2	99.8
SC SPARTANBURG	7	56	1780.8	610.0	39690	2259	38858	2202	0.0	0.0	98.6
SC SPARTANBURG	49	43	86.2	296.0	16934	1121	16501	1074	5.1	5.8	99.9
SC SUMTER	27	29	50.0	354.0	16419	669	15913	519	2.6	1.0	100.0
SC SUMTER	63	40	50.0	165.0	2622	121	2591	121	0.0	0.0	100.0
SD ABERDEEN	9	22	1574.9	427.0	34680	133	28761	112	0.0	0.0	100.0
SD ABERDEEN	16	17	65.0	357.0	18671	70	18002	65	7.3	6.8	100.0
SD BROOKINGS	8	26	2359.5	229.0	24444	138	20463	128	0.0	0.0	100.0
SD EAGLE BUTTE	13	19	1653.6	518.0	40277	20	34958	17	0.0	0.0	100.0
SD FLORENCE	3	32	3675.5	512.0	46183	202	44377	199	0.0	0.0	100.0
SD HURON	12	21	2622.7	259.0	27093	81	21771	70	0.0	0.0	100.0
SD LEAD	5	51	3917.6	564.0	45844	148	44876	150	0.0	0.0	97.8
SD LEAD	11	24	1780.8	576.0	41626	146	39252	146	0.7	0.2	100.0
SD LOWRY	11	15	1167.8	317.0	28173	29	21623	24	0.0	0.0	100.0
SD MARTIN	8	22	2625.3	265.0	26167	29	23673	25	0.0	0.0	100.0
SD MITCHELL	5	48	3295.6	460.0	42530	379	38561	345	0.0	0.0	100.0
SD PIERRE	4	28	3625.6	378.0	37396	52	33013	47	0.0	0.0	100.0

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SD PIERRE	10	14	1606.6	488.0	39320	63	32322	55	0.0	0.0	100.0
SD RAPID CITY	3	33	5000.0	201.0	25156	130	24275	130	0.0	0.0	96.7

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SD RAPID CITY	7	17	2782.9	204.0	21250	123	18383	118	0.0	0.0	100.0
SD RAPID CITY	9	18	147.0	198.0	13802	107	13003	107	0.0	0.0	99.4
SD RAPID CITY	15	14	50.0	155.0	9473	101	9236	98	4.4	0.7	99.8
SD RELIANCE	6	45	3836.3	338.0	35350	59	32529	56	0.0	0.0	99.9
SD SIOUX FALLS	11	30	1764.3	610.0	43682	483	34266	413	0.0	0.0	100.0
SD SIOUX FALLS	13	29	1764.3	610.0	44350	514	35390	419	0.0	0.0	100.0
SD SIOUX FALLS	17	15	50.0	151.0	5958	152	5942	152	0.1	0.0	100.0
SD SIOUX FALLS	23	24	50.0	54.0	1411	120	1411	120	0.1	0.0	100.0
SD VERMILLION	2	39	5000.0	232.0	29951	441	29253	439	0.0	0.0	99.9
TN CHATTANOOGA	3	49	5000.0	320.0	29105	1109	27543	1021	0.0	0.0	96.0
TN CHATTANOOGA	9	56	3414.2	317.0	25295	1017	22050	889	0.0	0.0	99.6
TN CHATTANOOGA	12	41	3088.7	384.0	29528	1123	26063	999	1.6	1.1	99.5
TN CHATTANOOGA	45	44	86.4	329.0	15572	754	14939	732	3.0	3.8	99.5
TN CHATTANOOGA	61	40	315.4	370.0	16765	793	15716	752	0.0	0.0	98.5
TN CLEVELAND	53	21	60.2	356.0	12764	735	11670	700	0.4	0.7	99.9
TN COOKEVILLE	22	52	68.9	425.0	18957	321	18766	319	1.0	1.2	99.9
TN COOKEVILLE	28	11	3.2	279.0	10631	198	9523	188	4.5	3.5	100.0
TN CROSSVILLE	20	35	50.0	48.0	1251	31	1174	30	0.2	0.0	100.0
TN GREENEVILLE	39	42	254.4	802.0	21581	1081	20178	983	0.7	0.6	99.7
TN HENDERSONVILLE	50	14	298.0	235.0	13049	1015	12512	989	4.9	4.7	99.9
TN JACKSON	7	28	1590.8	323.0	29494	563	25769	509	0.0	0.0	100.0
TN JACKSON	16	38	338.8	322.0	18466	414	18352	413	4.8	2.7	100.0
TN JELLICO	54	33	50.0	395.0	5477	266	4195	201	0.9	3.3	100.0
TN JOHNSON CITY	11	12	8.1	707.0	33501	1140	30229	1025	0.1	0.0	98.5
TN KINGSPORT	19	20	76.3	707.0	18281	705	17398	685	0.7	0.5	99.5
TN KNOXVILLE	6	51	3411.6	454.0	32786	1213	33498	1190	0.0	0.0	91.5
TN KNOXVILLE	8	30	1490.1	382.0	21470	976	20100	940	0.0	0.0	99.7
TN KNOXVILLE	10	31	1688.7	546.0	33798	1216	30251	1122	0.7	0.4	99.6
TN KNOXVILLE	15	36	141.0	513.0	18032	900	17785	894	0.1	0.0	99.9
TN KNOXVILLE	43	17	118.2	351.0	14791	832	13940	808	1.6	1.4	100.0
TN LEBANON	66	32	92.9	161.0	10088	935	9326	892	0.0	0.0	99.5
TN LEXINGTON	11	41	3324.7	195.0	23965	476	20661	419	0.1	0.0	100.0
TN MEMPHIS	3	43	4148.7	305.0	33307	1436	24966	1294	0.0	0.0	100.0
TN MEMPHIS	5	34	4047.7	308.0	33881	1448	29716	1381	0.0	0.0	100.0
TN MEMPHIS	10	29	1538.6	329.0	29871	1365	24936	1277	0.0	0.0	100.0
TN MEMPHIS	13	33	1675.0	308.0	28827	1345	25718	1299	0.0	0.0	100.0
TN MEMPHIS	24	23	184.7	308.0	19585	1168	19503	1167	1.6	0.2	100.0
TN MEMPHIS	30	31	369.9	305.0	17030	1119	16955	1118	0.6	0.1	100.0
TN MEMPHIS	50	21	58.0	315.0	16502	1135	16408	1134	1.5	0.2	100.0
TN MURFREESBORO	39	23	361.0	250.0	15406	1092	14661	1065	3.1	2.5	99.9
TN NASHVILLE	2	47	3277.0	411.0	38177	1654	32832	1476	0.0	0.0	99.8

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TN NASHVILLE	4	42	3203.5	434.0	39763	1671	35192	1571	0.0	0.0	99.9
TN NASHVILLE	5	46	3297.7	425.0	39656	1695	34091	1564	0.0	0.0	99.9

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TN NASHVILLE	8	55	1539.7	390.0	32195	1494	29216	1428	0.2	0.2	99.9
TN NASHVILLE	17	26	206.3	354.0	22119	1304	21847	1298	0.8	0.2	99.9
TN NASHVILLE	30	10	3.2	430.0	23789	1360	23218	1350	0.8	0.2	100.0
TN NASHVILLE	58	43	234.1	240.0	13729	1064	14212	1086	0.6	1.7	94.3
TN SNEEDVILLE	2	24	3917.7	536.0	39891	1719	39669	1663	0.8	1.4	94.7
TX ABILENE	9	10	5.8	259.0	25559	217	20324	204	2.2	1.0	99.0
TX ABILENE	32	33	106.9	280.0	17066	179	17001	179	1.9	0.9	100.0
TX ALVIN	67	42	413.1	543.0	25783	3766	25880	3767	0.0	0.0	99.6
TX AMARILLO	2	40	3440.9	401.0	38421	317	36525	311	0.0	0.0	99.9
TX AMARILLO	4	24	3511.9	433.0	40858	325	39298	324	0.0	0.0	100.0
TX AMARILLO	7	17	1654.1	518.0	40040	319	35862	316	0.0	0.0	100.0
TX AMARILLO	10	9	7.9	466.0	36964	314	33342	304	0.0	0.0	100.0
TX AMARILLO	14	16	67.5	464.0	21604	282	21493	282	0.0	0.0	100.0
TX ARLINGTON	68	45	394.6	421.0	22774	3971	22508	3965	0.0	0.0	100.0
TX AUSTIN	7	59	1549.7	384.0	32139	1334	30108	1264	0.8	2.2	100.0
TX AUSTIN	18	22	98.9	335.0	17057	895	16894	892	0.0	0.0	100.0
TX AUSTIN	24	33	114.0	387.0	21141	965	19569	941	1.5	0.3	100.0
TX AUSTIN	36	21	117.9	392.0	21343	967	20272	930	0.2	0.0	100.0
TX AUSTIN	42	43	159.8	393.0	17498	899	17409	899	1.3	0.1	98.5
TX AUSTIN	54	49	191.9	267.0	14242	877	13240	863	2.7	0.3	100.0
TX BAYTOWN	57	43	409.1	585.0	28849	3654	28813	3651	0.0	0.0	100.0
TX BEAUMONT	6	50	4147.1	293.0	34052	702	29150	642	0.0	0.0	100.0
TX BEAUMONT	12	21	1597.9	305.0	27420	649	24276	601	0.0	0.0	100.0
TX BEAUMONT	34	33	50.0	312.0	13946	538	13946	538	0.0	0.0	100.0
TX BELTON	46	47	50.0	384.0	16031	642	15413	576	1.5	6.1	100.0
TX BIG SPRING	4	49	286.9	116.0	12240	56	12111	56	0.0	0.0	99.9
TX BLANCO	52	45	417.2	498.0	31155	2233	29868	2182	5.1	21.5	100.0
TX BROWNSVILLE	23	58	164.7	445.0	18484	666	18484	666	0.0	0.1	100.0
TX BRYAN	3	41	2359.3	515.0	42528	2841	30232	520	0.0	0.0	99.7
TX BRYAN	28	29	50.0	153.0	6744	157	6733	157	0.0	0.0	100.0
TX COLLEGE STATION	15	23	50.0	119.0	3410	130	3410	130	14.9	1.1	100.0
TX CONROE	49	5	1.0	359.0	16561	3380	14159	2264	1.0	0.0	100.0
TX CONROE	55	32	374.9	302.0	21979	3249	21928	3248	0.0	0.0	100.0
TX CORPUS CHRISTI	3	43	4647.9	262.0	31487	490	30545	489	0.0	0.0	100.0
TX CORPUS CHRISTI	6	47	4206.7	291.0	29036	495	28243	490	0.0	0.0	100.0
TX CORPUS CHRISTI	10	32	1858.0	287.0	28050	493	27256	490	0.3	0.0	100.0
TX CORPUS CHRISTI	16	22	64.4	296.0	13621	442	13621	442	0.0	0.0	100.0
TX CORPUS CHRISTI	28	27	55.3	232.0	10458	417	10458	417	0.0	0.0	100.0
TX DALLAS	4	35	3846.9	511.0	46883	4409	41805	4285	0.0	0.0	100.0
TX DALLAS	8	9	8.2	512.0	39667	4195	36852	4160	0.0	0.0	99.9
TX DALLAS	13	14	1574.9	469.0	39003	4204	35042	4143	0.0	0.0	100.0

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TX DALLAS	27	18	413.1	515.0	26608	4032	26441	4030	2.3	0.2	100.0
TX DALLAS	33	32	413.1	518.0	27206	4037	26823	4032	2.1	0.3	100.0

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TX DALLAS	39	38	355.9	512.0	25725	4019	25520	4016	1.4	0.1	100.0
TX DALLAS	58	36	417.2	438.0	23605	3971	23458	3971	0.1	0.0	99.9
TX DECATUR	29	30	173.7	160.0	10986	3678	11473	3697	4.0	0.7	95.4
TX DEL RIO	10	13	6.3	352.0	21450	99	19950	99	0.0	0.0	99.8
TX DENTON	2	31	3275.9	412.0	40386	4218	37791	4179	0.0	0.0	100.0
TX EAGLE PASS	16	18	50.0	85.0	1957	35	1957	35	0.0	0.0	100.0
TX EL PASO	4	50	5000.0	475.0	39091	722	39727	722	0.0	0.0	97.4
TX EL PASO	7	53	3437.7	265.0	24972	722	23682	722	0.0	0.0	99.7
TX EL PASO	9	36	2010.2	582.0	40618	725	37799	724	0.0	0.0	99.9
TX EL PASO	13	54	2282.7	265.0	23115	720	22034	720	0.0	0.0	99.7
TX EL PASO	14	60	50.0	604.0	18187	715	17788	715	0.7	0.0	100.0
TX EL PASO	26	51	126.5	457.0	15450	714	15425	714	0.2	0.0	99.6
TX EL PASO	38	67	50.0	557.0	8534	629	8096	629	11.2	16.9	100.0
TX EL PASO	65	39	91.5	557.0	19642	713	18637	713	0.0	0.0	100.0
TX FORT WORTH	5	43	3793.5	514.0	46940	4409	40583	4228	0.0	0.0	100.0
TX FORT WORTH	11	19	1587.0	509.0	41046	4246	35593	4153	0.2	0.0	100.0
TX FORT WORTH	21	57	402.1	503.0	26374	4022	26250	4019	1.8	0.1	100.0
TX FORT WORTH	52	42	365.6	328.0	14335	3803	14891	3821	0.0	0.0	92.7
TX FREDERICKSBURG	2	38	5000.0	175.0	16312	163	13799	119	0.0	0.0	99.7
TX GALVESTON	22	31	411.7	566.0	28982	3655	28976	3654	0.0	0.0	100.0
TX GALVESTON	48	47	349.1	358.0	19582	3481	19145	3363	0.1	0.0	100.0
TX GARLAND	23	24	277.6	348.0	12198	3082	11933	3001	0.1	0.2	100.0
TX GREENVILLE	47	46	50.0	155.0	2737	73	2737	73	0.0	0.0	100.0
TX HARLINGEN	4	46	3169.6	396.0	39143	687	37259	686	0.0	0.0	100.0
TX HARLINGEN	44	34	81.8	296.0	14453	657	14450	657	0.0	0.0	100.0
TX HARLINGEN	60	61	124.4	372.0	15628	662	15628	662	0.0	0.0	100.0
TX HOUSTON	2	35	3917.3	588.0	51691	3941	45893	3865	0.0	0.0	100.0
TX HOUSTON	8	9	8.4	564.0	38469	3868	37963	3852	0.1	0.0	99.2
TX HOUSTON	11	10	8.5	570.0	44636	3888	43677	3878	0.0	0.0	99.7
TX HOUSTON	13	30	1716.1	588.0	45135	3899	42536	3869	0.0	0.0	100.0
TX HOUSTON	14	24	349.5	438.0	23360	3740	23332	3740	0.2	0.0	100.0
TX HOUSTON	20	19	412.7	552.0	26048	3766	26014	3766	0.2	0.0	100.0
TX HOUSTON	26	27	408.5	594.0	30216	3817	30100	3807	0.8	0.0	100.0
TX HOUSTON	39	38	408.5	594.0	28371	3780	28340	3779	2.0	0.1	100.0
TX HOUSTON	61	46	372.2	443.0	23733	3725	23712	3725	0.0	0.0	100.0
TX IRVING	49	50	380.6	365.0	20841	3927	20667	3922	0.2	0.0	100.0
TX JACKSONVILLE	56	48	415.8	482.0	21910	575	21763	574	0.0	0.0	100.0
TX KATY	51	52	145.1	500.0	21604	3711	21444	3706	0.0	0.0	100.0
TX KERRVILLE	35	17	413.1	536.0	23673	1416	22867	1409	4.2	2.6	100.0
TX KILLEEN	62	51	217.3	408.0	18826	563	18703	562	0.0	0.0	99.9
TX LAKE DALLAS	55	41	153.6	142.0	10795	3660	10705	3644	0.0	0.0	98.7

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TX LAREDO	8	14	1668.0	312.0	26403	140	25686	137	3.7	1.3	100.0
TX LAREDO	13	54	466.3	280.0	20988	143	20302	142	0.2	0.0	100.0

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TX LAREDO	27	25	166.4	67.0	6588	132	6564	132	0.0	0.0	100.0
TX LLANO	14	27	198.4	269.0	17332	169	15970	107	13.5	12.4	100.0
TX LONGVIEW	51	52	346.9	381.0	19025	549	18395	533	0.3	0.2	99.9
TX LUBBOCK	5	44	5000.0	226.0	28985	362	28531	362	0.0	0.0	100.0
TX LUBBOCK	11	20	3039.7	232.0	25714	350	24581	349	0.5	0.0	100.0
TX LUBBOCK	13	19	2653.3	268.0	25426	343	24324	343	0.0	0.0	100.0
TX LUBBOCK	28	27	94.0	256.0	15743	299	15657	299	0.0	0.1	100.0
TX LUBBOCK	34	35	217.1	256.0	14941	294	14881	294	0.0	0.0	100.0
TX LUFKIN	9	15	1412.7	204.0	18383	224	16145	205	7.5	7.6	100.0
TX MCALLEN	48	30	138.8	197.0	12790	652	12790	652	0.0	0.4	100.0
TX MIDLAND	2	47	3960.6	323.0	35229	344	33673	340	0.0	0.0	100.0
TX NACOGDOCHES	19	25	50.0	222.0	7787	137	7760	137	9.4	4.4	100.0
TX ODESSA	7	18	3267.6	226.0	25908	279	25359	278	0.0	0.0	100.0
TX ODESSA	9	14	1541.4	387.0	33954	335	30047	297	0.0	0.0	100.0
TX ODESSA	24	25	174.5	335.0	18048	279	18046	279	0.0	0.0	100.0
TX ODESSA	36	16	50.0	88.0	4851	225	4846	225	0.0	0.0	100.0
TX ODESSA	42	41	50.0	146.0	7697	244	7681	244	0.0	0.0	100.0
TX PORT ARTHUR	4	40	3374.3	360.0	37387	793	33820	764	0.0	0.0	100.0
TX ROSENBERG	45	44	129.8	439.0	20397	3687	20335	3685	0.1	0.0	100.0
TX SAN ANGELO	3	31	632.2	183.0	17609	120	16538	119	0.0	0.0	100.0
TX SAN ANGELO	6	50	5000.0	277.0	31860	143	26567	127	0.0	0.0	100.0
TX SAN ANGELO	8	11	7.1	442.0	33616	157	30118	150	0.1	0.0	99.5
TX SAN ANTONIO	4	50	3301.1	451.0	41632	1711	37666	1604	0.0	0.0	99.7
TX SAN ANTONIO	5	48	3162.7	424.0	40188	1660	36658	1587	0.0	0.1	99.9
TX SAN ANTONIO	9	8	5.4	283.0	25635	1499	26004	1502	0.0	0.1	96.9
TX SAN ANTONIO	12	31	1569.0	451.0	37096	1597	35552	1571	0.1	0.1	99.8
TX SAN ANTONIO	23	19	65.9	261.0	10861	1349	10723	1344	0.0	0.0	100.0
TX SAN ANTONIO	29	30	406.8	443.0	23150	1492	22961	1488	0.1	0.1	99.5
TX SAN ANTONIO	41	16	50.0	152.0	10838	1369	10589	1364	8.9	4.2	99.9
TX SAN ANTONIO	60	39	408.2	456.0	21455	1476	20475	1461	0.7	0.6	100.0
TX SWEETWATER	12	23	1573.9	427.0	34286	240	30547	228	1.2	0.4	100.0
TX TEMPLE	6	40	3917.6	573.0	49397	1373	35539	962	0.0	0.0	100.0
TX TEXARKANA	6	42	3442.6	482.0	43946	1018	32501	883	0.0	0.0	100.0
TX TYLER	7	22	1910.5	302.0	29070	702	23948	609	0.0	0.0	100.0
TX VICTORIA	19	14	50.0	149.0	7080	109	7081	109	0.2	0.0	100.0
TX VICTORIA	25	15	112.8	311.0	15404	160	15374	160	0.0	0.0	100.0
TX WACO	10	53	1064.7	552.0	39518	872	35829	822	4.1	4.1	100.0
TX WACO	25	26	402.3	558.0	27713	684	25638	590	0.3	0.1	100.0
TX WACO	34	12	3.2	155.0	4708	200	4670	200	0.1	0.0	100.0
TX WACO	44	20	316.5	552.0	23741	653	23333	618	2.5	0.9	99.9
TX WESLACO	5	20	4215.0	290.0	33612	675	32202	674	0.0	0.0	100.0

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TX WICHITA FALLS	3	48	4068.7	305.0	33976	388	31010	372	0.0	0.0	100.0
TX WICHITA FALLS	6	51	3988.0	311.0	34271	392	28430	357	0.0	0.0	100.0

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TX WICHITA FALLS	18	15	169.3	329.0	16650	313	16582	313	2.9	2.9	100.0
UT CEDAR CITY	4	26	1188.2	836.0	36037	75	41583	86	0.0	0.0	86.0
UT OGDEN	9	22	628.5	893.0	21917	1379	21769	1377	0.2	0.0	99.3
UT OGDEN	30	29	111.1	1190.0	21679	1365	20573	1360	0.0	0.0	100.0
UT PROVO	11	10	5.4	896.0	28676	1394	24874	1368	0.0	0.0	100.0
UT PROVO	16	17	401.3	57.0	7517	311	7037	298	0.0	0.0	100.0
UT SALT LAKE CITY	2	43	972.6	1180.0	34805	1404	47882	1487	0.0	0.0	72.4
UT SALT LAKE CITY	4	51	973.3	1180.0	34415	1398	44490	1475	0.0	0.0	75.9
UT SALT LAKE CITY	5	48	1030.1	1152.0	35389	1401	47824	1472	0.0	0.0	74.0
UT SALT LAKE CITY	7	8	5.1	924.0	34888	1410	30963	1395	0.0	0.0	100.0
UT SALT LAKE CITY	13	19	446.8	1116.0	22451	1391	19795	1362	0.0	0.0	99.9
UT SALT LAKE CITY	14	26	97.9	1181.0	25019	1369	23632	1364	0.0	0.0	100.0
UT ST. GEORGE	12	2	1.0	42.0	1822	42	1647	41	0.0	0.0	100.0
VA ARLINGTON	14	15	132.5	219.0	14888	5063	14857	5069	1.1	0.9	98.9
VA ASHLAND	65	42	65.0	262.0	12615	960	11509	941	0.4	0.1	100.0
VA BRISTOL	5	23	3131.7	680.0	38717	1345	39282	1381	0.0	0.0	91.2
VA CHARLOTTESVILLE	29	28	392.1	363.0	21407	626	20105	564	3.4	11.2	99.8
VA CHARLOTTESVILLE	41	32	50.0	352.0	8294	211	7866	201	4.2	1.5	99.8
VA CHARLOTTESVILLE	64	47	224.1	423.0	20324	496	18342	420	0.9	0.5	100.0
VA DANVILLE	24	23	50.0	107.0	5471	267	5328	261	7.3	6.7	99.8
VA FAIRFAX	56	48	50.0	223.0	12848	4537	11889	4176	0.2	0.4	99.5
VA FRONT ROYAL	42	23	50.0	398.0	8101	253	6355	226	1.3	1.5	100.0
VA GOLDVEIN	53	46	105.4	229.0	15111	3748	13967	2840	0.3	0.0	99.9
VA GRUNDY	68	50	64.3	763.0	20839	752	19361	710	0.0	0.0	100.0
VA HAMPTON	13	52	1664.6	301.0	29087	1719	23718	1591	0.0	0.0	100.0
VA HAMPTON-NORFOLK	15	16	147.2	296.0	16854	1547	16854	1547	0.2	0.0	100.0
VA HARRISONBURG	3	22	148.3	646.0	17687	435	21262	533	1.3	0.6	78.6
VA LYNCHBURG	13	49	1686.4	625.0	34022	1051	27123	835	0.0	0.0	98.5
VA LYNCHBURG	21	3	1.0	500.0	21080	747	17295	593	1.6	8.4	98.6
VA MANASSAS	66	34	229.8	168.0	13548	3878	13332	4026	0.5	1.3	98.0
VA MARION	52	48	50.0	445.0	12351	331	11026	298	1.6	1.0	99.8
VA NORFOLK	3	39	4056.5	299.0	34452	1833	26743	1740	0.0	0.0	100.0
VA NORFOLK	33	14	370.9	277.0	14124	1496	14124	1496	0.7	0.2	100.0
VA NORFOLK	49	50	50.0	155.0	6592	1353	6592	1353	0.1	0.0	100.0
VA NORTON	47	32	50.0	591.0	19196	749	16984	655	0.9	1.7	100.0
VA PETERSBURG	8	58	1394.8	320.0	28446	1275	25182	1189	0.0	0.0	100.0
VA PORTSMOUTH	10	11	5.7	302.0	27493	1703	27601	1650	0.0	0.0	97.7
VA PORTSMOUTH	27	26	125.3	296.0	18432	1558	18432	1558	0.8	0.3	100.0
VA RICHMOND	6	31	4739.9	256.0	31956	1482	27086	1365	4.7	4.2	100.0
VA RICHMOND	12	54	2935.4	241.0	26460	1271	21106	1106	0.2	0.1	99.9
VA RICHMOND	23	24	180.5	327.0	20640	1065	20599	1064	0.0	0.0	100.0

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
VA RICHMOND	35	20	153.1	384.0	22486	1076	22387	1084	4.2	2.4	98.6
VA RICHMOND	57	45	50.0	293.0	15022	958	14951	957	1.0	0.1	100.0

STATE AND CITY	NTSC CHAN	DTV CHAN	DTV POWER (kW)	ANTENNA HAAT (m)	DIGITAL TELEVISION SERVICE DURING TRANSITION AREA (Sq km)	DIGITAL TELEVISION SERVICE DURING TRANSITION PEOPLE (thous)	EXISTING NTSC CURRENT SERVICE AREA (Sq km)	EXISTING NTSC CURRENT SERVICE PEOPLE (thous)	EXISTING NTSC NEW INTERFERENCE AREA (% NL Area)	EXISTING NTSC NEW INTERFERENCE PEOPLE (% NL Pop)	DTV/ NTSC AREA MATCH (%)
VA ROANOKE	7	18	1780.8	610.0	38019	1237	34211	1137	0.0	0.0	99.5
VA ROANOKE	10	56	1737.5	610.0	33842	1151	31596	1094	0.0	0.0	98.1
VA ROANOKE	15	17	108.9	634.0	19970	742	18521	720	0.3	0.4	99.2
VA ROANOKE	27	14	197.4	607.0	20091	849	17749	783	4.1	3.2	100.0
VA ROANOKE	38	36	78.4	616.0	14883	661	14055	644	0.5	0.3	99.7
VA STAUNTON	51	50	50.0	680.0	7063	232	6700	227	0.8	0.1	99.9
VA VIRGINIA BEACH	43	19	355.9	261.0	19729	1577	19729	1577	0.3	0.0	100.0
VT BURLINGTON	3	34	1188.3	835.0	42109	558	40319	580	0.0	0.0	92.8
VT BURLINGTON	22	16	59.3	835.0	25552	463	23400	430	0.2	0.2	100.0
VT BURLINGTON	33	32	86.4	815.0	25061	449	23463	426	1.2	1.1	100.0
VT BURLINGTON	44	14	98.1	397.0	16161	328	14372	311	0.0	0.0	100.0
VT HARTFORD	31	35	151.2	677.0	15670	348	15516	344	2.8	2.8	96.1
VT RUTLAND	28	29	50.0	429.0	10753	247	9596	236	0.0	0.0	100.0
VT ST. JOHNSBURY	20	19	50.0	592.0	15745	161	13193	133	0.1	0.1	100.0
VT WINDSOR	41	58	57.3	684.0	17143	400	16410	381	0.7	0.5	98.9
WA BELLEVUE	33	32	50.0	286.0	3966	1918	3450	1854	12.1	16.3	100.0
WA BELLEVUE	51	50	91.8	739.0	22895	2988	22442	2980	0.4	1.1	100.0
WA BELLINGHAM	12	34	1240.6	722.0	41575	1328	38536	565	0.0	0.0	99.8
WA BELLINGHAM	24	17	50.0	676.0	5867	201	5517	188	0.0	0.0	100.0
WA CENTRALIA	15	38	50.0	347.0	11269	318	10313	266	0.1	0.4	100.0
WA EVERETT	16	35	415.5	389.0	20637	2985	19838	2924	1.6	0.6	100.0
WA KENNEWICK	42	41	50.0	390.0	15097	248	14558	236	0.0	0.0	100.0
WA PASCO	19	18	50.0	366.0	14628	220	14137	202	0.0	0.0	100.0
WA PULLMAN	10	17	571.8	408.0	26226	240	25417	201	0.0	0.0	99.8
WA RICHLAND	25	15	50.0	411.0	16427	266	15907	253	0.1	0.2	100.0
WA RICHLAND	31	9	3.2	370.0	6855	161	6320	157	0.0	0.0	100.0
WA SEATTLE	4	43	4049.5	351.0	32041	3083	33746	3092	0.0	0.0	94.3
WA SEATTLE	5	39	3993.0	356.0	32384	3084	32217	3064	0.0	0.0	95.6
WA SEATTLE	7	53	3214.1	250.0	24407	3019	24126	3019	0.0	0.0	98.8
WA SEATTLE	9	25	2970.2	252.0	24872	3026	23444	2989	0.0	0.0	99.8
WA SEATTLE	22	23	363.5	366.0	16178	2951	14838	2884	0.2	0.0	99.9
WA SEATTLE	45	44	405.6	393.0	17472	2908	17382	2936	2.8	2.0	98.4
WA SPOKANE	2	65	3219.5	671.0	43342	552	47159	554	0.0	0.0	89.6
WA SPOKANE	4	38	1582.9	933.0	45182	536	50307	552	0.0	0.0	88.8
WA SPOKANE	6	39	3312.4	653.0	43663	540	46614	568	1.4	6.0	92.5
WA SPOKANE	7	54	1771.4	558.0	34790	533	34950	528	0.0	0.0	97.2
WA SPOKANE	22	55	50.0	429.0	14926	422	14977	420	0.0	0.0	98.4
WA SPOKANE	28	57	163.8	601.0	24732	466	24285	463	0.0	0.0	99.9
WA TACOMA	11	14	1534.9	363.0	29020	3057	26175	2983	0.0	0.0	99.8
WA TACOMA	13	18	1774.2	610.0	36372	3186	31851	3028	0.0	0.0	100.0
WA TACOMA	20	19	263.9	491.0	20136	2960	19498	2901	0.4	0.1	99.8

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WA TACOMA	28	27	50.0	232.0	11259	2460	10763	2436	4.7	18.2	99.6
WA TACOMA	56	41	415.9	570.0	28552	3099	27427	3080	0.3	1.9	100.0

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WA VANCOUVER	49	48	79.1	527.0	15699	1745	15242	1722	0.0	0.1	100.0
WA WENATCHEE	27	56	50.0	424.0	9652	99	8099	95	0.0	0.0	100.0
WA YAKIMA	23	24	50.0	293.0	8926	192	8207	192	0.0	0.0	99.7
WA YAKIMA	29	52	50.0	296.0	9134	196	8706	195	0.0	0.0	100.0
WA YAKIMA	35	34	50.0	293.0	9572	198	8890	197	0.0	0.0	100.0
WA YAKIMA	47	16	50.0	280.0	9743	197	8633	197	0.0	0.0	100.0
WI APPLETON	32	31	50.0	336.0	16910	751	16710	737	0.0	0.1	100.0
WI CHIPPEWA FALLS	48	49	56.4	213.0	12350	246	12231	245	0.0	0.0	100.0
WI EAU CLAIRE	13	16	1768.9	607.0	43443	773	37350	633	0.0	0.0	99.8
WI EAU CLAIRE	18	14	50.0	226.0	8396	200	8261	198	3.7	2.7	100.0
WI FOND DU LAC	68	50	413.7	506.0	28718	2312	30247	2601	0.0	0.0	93.3
WI GREEN BAY	2	51	3663.6	381.0	38545	1056	35877	1002	0.0	0.0	100.0
WI GREEN BAY	5	45	4120.1	341.0	36018	1030	34082	986	0.0	0.0	99.9
WI GREEN BAY	11	23	1541.7	384.0	33885	1009	32173	958	0.0	0.0	100.0
WI GREEN BAY	26	25	144.9	360.0	17811	843	17669	833	1.2	1.7	100.0
WI GREEN BAY	38	39	50.0	360.0	17909	733	17707	726	0.1	0.0	100.0
WI JANESVILLE	57	32	50.0	123.0	8864	787	8905	795	0.5	3.9	98.7
WI KENOSHA	55	16	50.0	137.0	6912	1850	6854	1747	0.0	0.0	100.0
WI LA CROSSE	8	43	1583.8	469.0	37577	673	29542	527	0.1	0.1	100.0
WI LA CROSSE	19	17	50.0	347.0	14988	286	14431	273	8.1	4.1	99.9
WI LA CROSSE	25	23	50.0	306.0	12036	244	11173	216	0.4	0.1	100.0
WI LA CROSSE	31	36	52.7	347.0	16921	299	16479	290	0.3	0.9	100.0
WI MADISON	3	29	582.2	469.0	31332	1323	25937	1063	0.9	3.4	99.9
WI MADISON	15	19	50.0	354.0	17245	786	16993	780	3.9	1.5	99.7
WI MADISON	21	20	54.2	453.0	20887	850	20636	842	2.9	2.8	99.4
WI MADISON	27	26	50.0	381.0	17989	806	17907	804	1.1	1.6	99.2
WI MADISON	47	48	50.0	357.0	16948	740	16579	734	2.9	3.9	99.7
WI MANITOWOC	16	17	50.0	129.0	2896	76	2896	76	1.4	1.4	100.0
WI MAYVILLE	52	44	119.8	233.0	13018	758	13050	769	3.0	3.0	99.3
WI MENOMONIE	28	27	51.9	346.0	17029	351	15961	311	0.2	0.5	100.0
WI MILWAUKEE	4	40	4102.8	305.0	34797	2896	24807	2169	0.0	0.0	99.5
WI MILWAUKEE	6	42	4138.1	305.0	34373	2855	22620	2061	0.0	0.0	100.0
WI MILWAUKEE	10	33	1670.0	308.0	29499	2569	24186	2113	0.3	0.1	100.0
WI MILWAUKEE	12	8	5.9	305.0	27427	2480	22909	2057	0.0	0.0	96.3
WI MILWAUKEE	18	34	374.2	307.0	18656	2109	18433	2085	4.1	5.5	100.0
WI MILWAUKEE	24	28	182.8	313.0	16440	2009	16340	2002	9.7	3.7	100.0
WI MILWAUKEE	30	22	50.0	293.0	13189	1831	13133	1829	0.9	0.5	100.0
WI MILWAUKEE	36	35	114.2	283.0	14831	1874	14786	1872	0.7	0.7	100.0
WI MILWAUKEE	58	46	123.7	163.0	10822	1766	10596	1760	3.4	0.7	99.7
WI PARK FALLS	36	38	50.0	445.0	19783	106	19169	99	0.3	0.3	100.0
WI RACINE	49	41	111.6	149.0	10592	1904	10672	1814	4.9	2.6	93.6

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WI RHINELANDER	12	22	1578.1	506.0	39945	345	30460	249	0.0	0.0	100.0
WI SUPERIOR	6	47	5000.0	308.0	33338	289	29135	257	0.0	0.0	99.8

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WI SURING	14	21	50.0	189.0	8287	99	8260	99	0.1	0.0	100.0
WI WAUSAU	7	24	1536.3	369.0	32521	494	27221	430	0.0	0.0	100.0
WI WAUSAU	9	41	1536.3	369.0	32515	494	25840	433	0.0	0.0	100.0
WI WAUSAU	20	15	67.0	300.0	16560	344	16530	344	2.3	0.9	99.9
WV BLUEFIELD	6	34	1963.5	372.0	25413	703	24940	687	0.0	0.0	95.9
WV BLUEFIELD	40	46	50.0	387.0	14095	419	12823	342	0.8	2.3	99.9
WV CHARLESTON	8	58	700.6	372.0	26724	934	25040	892	0.0	0.0	99.8
WV CHARLESTON	11	19	205.0	525.0	23880	858	21033	783	0.7	0.4	100.0
WV CHARLESTON	29	28	417.2	454.0	27749	851	26177	747	1.5	3.7	99.7
WV CLARKSBURG	12	52	2297.7	262.0	24125	613	21739	518	0.2	0.0	100.0
WV CLARKSBURG	46	45	50.0	244.0	8790	283	8007	256	4.7	3.3	100.0
WV GRANDVIEW	9	31	3437.7	305.0	26211	696	22486	550	0.0	0.0	99.8
WV HUNTINGTON	3	49	1163.7	388.0	30896	1073	28051	994	0.0	0.0	99.5
WV HUNTINGTON	13	55	616.2	387.0	27576	995	25903	956	3.3	2.4	100.0
WV HUNTINGTON	33	54	132.8	379.0	17072	733	16826	723	3.5	2.3	99.6
WV LEWISBURG	59	25	50.0	397.0	6535	109	5183	66	0.1	0.0	100.0
WV MARTINSBURG	60	12	3.2	312.0	13690	569	10756	495	0.1	0.0	100.0
WV MORGANTOWN	24	33	204.1	457.0	19624	1168	18948	1092	4.6	11.7	99.6
WV OAK HILL	4	43	5000.0	226.0	24616	631	22621	548	0.0	0.0	95.7
WV PARKERSBURG	15	32	50.0	189.0	8576	262	8224	252	0.7	1.2	100.0
WV WESTON	5	39	5000.0	268.0	28901	615	26116	521	0.0	0.0	99.0
WV WHEELING	7	56	2147.1	293.0	26707	2409	23677	1974	1.4	3.9	99.7
WY CASPER	2	41	4526.8	610.0	45075	79	46404	78	0.0	0.0	94.8
WY CASPER	14	16	86.3	573.0	22848	65	22080	65	0.0	0.0	100.0
WY CASPER	20	19	100.0	533.0	19283	69	18520	68	0.1	0.0	100.0
WY CHEYENNE	5	51	5000.0	189.0	23385	355	23132	364	0.0	0.0	94.4
WY CHEYENNE	27	28	300.0	232.0	13025	335	12680	328	0.0	0.1	100.0
WY CHEYENNE	33	32	50.0	148.0	4107	71	3863	71	0.0	0.0	100.0
WY JACKSON	2	25	50.0	304.0	4307	11	4571	11	0.0	0.0	93.9
WY LANDER	4	27	5000.0	463.0	36343	33	37717	33	0.0	0.0	95.6
WY LANDER	5	35	5000.0	82.0	18615	32	19838	32	0.0	0.0	93.0
WY RAWLINS	11	9	3.2	70.0	2406	10	2193	10	0.0	0.0	100.0
WY RIVERTON	10	17	848.4	526.0	26388	48	25206	47	0.0	0.0	99.7
WY ROCK SPRINGS	13	15	1084.6	521.0	35337	45	33035	45	0.0	0.0	100.0
WY SHERIDAN	9	15	50.0	291.0	8756	24	7734	24	0.0	0.0	100.0
WY SHERIDAN	12	18	3437.7	372.0	28891	38	27520	37	0.0	0.0	99.9

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PR AGUADA	50	63	17.4	343.0	14293	-	13149	-	0.0	-	100.0
PR AGUADILLA	12	69	1412.5	665.0	46002	-	38301	-	0.0	-	100.0
PR AGUADILLA	32	33	0.1	296.0	4436	-	4652	-	16.2	-	95.2
PR AGUADILLA	44	45	9.8	372.0	13603	-	13040	-	0.9	-	99.9
PR ARECIBO	54	53	85.1	600.0	26989	-	26609	-	4.8	-	99.5
PR ARECIBO	60	61	112.2	242.0	15542	-	15203	-	0.0	-	100.0
PR BAYAMON	36	57	0.1	329.0	2456	-	4283	-	19.4	-	56.9
PR CAGUAS	11	31	1445.4	355.0	30978	-	21824	-	0.0	-	100.0
PR CAGUAS	58	29	1.1	329.0	5979	-	8316	-	31.2	-	71.6
PR CAROLINA	52	27	29.5	585.0	20878	-	21606	-	6.0	-	95.4
PR FAJARDO	13	43	575.4	863.0	44628	-	32793	-	0.0	-	100.0
PR FAJARDO	40	55	58.9	839.0	29989	-	28987	-	8.8	-	99.9
PR GUAYAMA	46	21	87.1	642.0	28196	-	27957	-	0.3	-	100.0
PR HUMACAO	68	51	2.1	594.0	13296	-	13282	-	1.5	-	100.0
PR MAYAGUEZ	3	35	3090.3	691.0	53273	-	40712	-	0.0	-	100.0
PR MAYAGUEZ	5	23	3981.1	610.0	51958	-	44597	-	13.7	-	100.0
PR MAYAGUEZ	16	62	5.9	347.0	11899	-	11527	-	4.3	-	99.5
PR MAYAGUEZ	22	67	89.1	620.0	27808	-	27691	-	2.2	-	99.9
PR NARANJITO	64	65	31.6	142.0	10041	-	10359	-	11.5	-	95.8
PR PONCE	7	8	5.8	826.0	41703	-	46824	-	0.0	-	88.2
PR PONCE	9	41	776.2	857.0	46860	-	45732	-	0.0	-	99.9
PR PONCE	14	19	66.1	861.0	30951	-	30272	-	3.9	-	100.0
PR PONCE	20	10	0.1	259.0	8221	-	7812	-	20.1	-	84.4
PR PONCE	26	25	13.5	302.0	12756	-	12274	-	11.7	-	99.8
PR PONCE	48	47	1.2	247.0	7207	-	7081	-	18.9	-	99.8
PR SAN JUAN	2	56	1778.3	861.0	54453	-	46686	-	2.1	-	100.0
PR SAN JUAN	4	28	1737.8	873.0	54457	-	41839	-	1.3	-	100.0
PR SAN JUAN	6	49	1995.3	825.0	54301	-	41882	-	4.4	-	100.0
PR SAN JUAN	18	39	20.9	848.0	24576	-	22841	-	5.6	-	99.6
PR SAN JUAN	24	15	30.2	581.0	21912	-	21905	-	8.0	-	99.8
PR SAN JUAN	30	59	154.9	287.0	17973	-	17932	-	2.0	-	99.9
PR SAN SEBASTIAN	38	17	1.8	332.0	9400	-	8720	-	9.8	-	100.0
PR YAUCO	42	66	102.3	852.0	33555	-	31628	-	6.6	-	100.0
VI CHARLOTTE AMALI	10	5	14.5	558.0	37936	-	39160	-	0.0	-	96.7
VI CHARLOTTE AMALI	12	3	0.8	451.0	20181	-	15899	-	0.0	-	100.0
VI CHRISTIANSTED	8	38	851.1	347.0	28037	-	27277	-	18.4	-	100.0

Note: Data for Puerto Rico and the Virgin Islands was unavailable in a form suitable for calculations related to population.

APPENDIX C
INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by Section 603 of the Regulatory Flexibility Act,[1] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected significant economic impact on small entities by the policies and rules proposed in this Further Notice of Proposed Rule Making in MM Docket No. 87-268. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Further Notice provided above in Section VIII.

Need for and Objectives of the Proposed Rule:

In this rule making action the Commission presents proposals for the policies, procedures and technical criteria that it will use in allotting channels for broadcast digital television (DTV), plans for the recovery of a portion of the spectrum currently allocated to TV broadcasting, and a draft DTV Table of Allotments. The objective of this action is to obtain comment and information that will assist the Commission in allotting DTV channels. The Commission seeks to allot DTV channels in a manner that is most efficient for broadcasters and the public and least disruptive to broadcast television service during the period of transition from NTSC to DTV service and to recover spectrum.

Legal Basis:

The proposed action is authorized under Sections 4(i), 7, 301, 302, 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157, 301, 302, 303 and 307.

Description and Estimate Of The Number Of Small Entities To Which The Rules Will Apply:

1. Definition of a "Small Business"

Under the Regulatory Flexibility Act, small entities may include small organizations, small businesses, and small governmental jurisdictions. 5 U.S.C. § 601(6). The Regulatory Flexibility Act, 5 U.S.C. § 601(3) generally defines the term "small business" as having the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. § 632. A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA"). Id. According to the SBA's regulations, entities engaged in television broadcasting may have a maximum of $ 10.5 million in annual receipts in order to qualify as a small business concern.[2] 13 CFR § 121.201. This standard also

[1] 5 U.S.C. § 603.

[2] This revenue cap appears to apply to noncommercial educational television stations, as well as to commercial television stations. See Executive Office of the President, Office of Management and Budget, Standard Industrial Classification Manual (1987), at 283, which

applies in determining whether an entity is a small business for purposes of the Regulatory Flexibility Act.

Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." While we tentatively believe that the foregoing definition of "small business" greatly overstates the number of television broadcast stations that are small businesses and is not suitable for purposes of determining the impact of the new rules on small business, we did not propose an alternative definition in the IRFA.[3] Accordingly, for purposes of this Further Notice of Proposed Rule Making, we utilize the SBA's definition in determining the number of small businesses to which the rules apply, but we reserve the right to adopt a more suitable definition of "small business" as applied to television broadcast stations and to consider further the issue of the number of small entities that are television broadcasters in the future. Further, in this IRFA, we will identify the different classes of small television stations that may be impacted by the rules adopted in this Further Notice of Proposed Rule Making.

2. Issues in Applying the Definition of a "Small Business"

The SBA has defined "annual receipts" specifically in 13 C.F.R § 104, and its calculations include an averaging process. We do not currently require submission of

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describes "Television Broadcasting Stations (SIC Code 4833) as:

> Establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services. Included in this industry are commercial, religious, educational and other television stations. Also included here are establishments primarily engaged in television broadcasting and which produce taped television program materials.

[3] We have pending proceedings seeking comment on the definition of and data relating to small businesses. In our Notice of Inquiry in GN Docket No. 96-113 (In the Matter of Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses), FCC 96-216, released May 21, 1996, we requested commenters to provide profile data about small telecommunications businesses in particular services, including television, and the market entry barriers they encounter, and we also sought comment as to how to define small businesses for purposes of implementing Section 257 of the Telecommunications Act of 1996, which requires us to identify market entry barriers and to prescribe regulations to eliminate those barriers. 47 U.S.C § 25. The comment and reply comment deadlines in that proceeding have not yet elapsed. Additionally, in our Order and Notice of Proposed Rule Making in MM Docket No. 96-16 (In the Matter of Streamlining Broadcast EEO Rule and Policies, Vacating the EEO Forfeiture Policy Statement and Amending Section 1.80 of the Commission's Rules to Include EEO Forfeiture Guidelines), 11 FCC Rcd 5154 (1996), we invited comment as to whether relief should be afforded to stations: (1) based on small staff and what size staff would be considered sufficient for relief, e.g., 10 or fewer full-time employees; (2) based on operation in a small market; or (3) based on operation in a market with a small minority work force. We have not concluded the foregoing rule making.

financial data from licensees that we could use to apply the SBA's definition of a small business. Thus, for purposes of estimating the number of small entities to which the rules apply, we are limited to considering the revenue data that are publicly available, and the revenue data on which we rely may not correspond completely with the SBA definition of annual receipts.

Under SBA criteria for determining annual receipts, if a concern has acquired an affiliate or been acquired as an affiliate during the applicable averaging period for determining annual receipts, the annual receipts in determining size status include the receipts of both firms. 13 CFR §121.104(d)(1). The SBA defines affiliation in 13 CFR § 121.103. While the Commission refers to an affiliate generally as a station affiliated with a network, the SBA's definition of affiliate is analogous to our attribution rules. Generally, under the SBA's definition, concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both. 13 CFR § 121.103(a)(1). The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. 13 CFR § 121.103(a)(2). Instead of making an independent determination of whether television stations were affiliated based on SBA's definitions, we relied on the industry data bases available to us to afford us that information.

3. Estimates Based on Census and BIA Data

According to the Census Bureau, in 1992, there were 1,155 out of 1,478 operating television stations with revenues of less than ten million dollars. This represents 78 percent of all television stations, including non-commercial stations.[4] See 1992 Census of Transportation, Communications, and Utilities, Establishment and Firm Size, May 1995, at 1-25. The Census Bureau does not separate the revenue data by commercial and non-commercial stations in this report. Neither does it allow us to determine the number of stations with a maximum of 10.5 million dollars in annual receipts. Census data also indicates that 81 percent of operating firms (that owned at least one television station) had revenues of less than $10 million.[5]

We have also performed a separate study based on the data contained in the BIA Publications, Inc. Master Access Television Analyzer Database, which lists a total of 1,141

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[4] The Commission's own records indicate that there are approximately 1,600 UHF and VHF commercial and noncommercial full service television stations that would be affected by the channel allotment proposals set forth in this Further Notice.

[5] Alternative data supplied by the U.S. Small Business Administration Office of Advocacy indicate that 65 percent of TV owners (627 of 967) have less than $10 million in annual revenue and that 39 percent of TV stations (627 of 1,591) have less than $10 million in annual revenue. U.S. Small Business Administration 1992 Economic Census Industry and Enterprise Receipts Report, Table 2D (U.S. Census Business Data adopted by SBA). These data were prepared by the U.S. Census Bureau under contract to the Small Business Administration. These data show a lower percentage of small businesses than the data supplied directly to us by the Census Bureau. Therefore, for purposes of our worst case analysis, we will use the data supplied directly to us by the Census Bureau.

full-power commercial television stations. It should be noted that the percentage figures derived from the data base may be underinclusive because the data base does not list revenue estimates for noncommercial educational stations, and these are therefore excluded from our calculations based on the data base. Non-commercial stations would be subject to the allotment rules and policies proposed herein. The data indicate that, based on 1995 revenue estimates, 440 full-power commercial television stations had an estimated revenue of 10.5 million dollars or less. That represents 54 percent of commercial television stations with revenue estimates listed in the BIA program. The data base does not list estimated revenues for 331 stations. Using a worst case scenario, if those 331 stations for which no revenue is listed are counted as small stations, there would be a total of 771 stations with an estimated revenue of 10.5 million dollars or less, representing approximately 68 percent of the 1,141 commercial television stations listed in the BIA data base.

Alternatively, if we look at owners of commercial television stations as listed in the BIA data base, there are a total of 488 owners. The data base lists estimated revenues for 60 percent of these owners, or 295. Of these 295 owners, 158 or 54 percent had annual revenues of $10.5 million or less. Using a worst case scenario, if the 193 owners for which revenue is not listed are assumed to be small, the total of small entities would constitute 72 percent of owners.

In summary, based on the foregoing worst case analysis using census data, we estimate that our rules will apply to as many as 1,155 commercial and non-commercial television stations (78 percent of all stations) that could be classified as small entities. Using a worst case analysis based on the data in the BIA data base, we estimate that as many as approximately 771 commercial television stations (about 68 percent of all commercial televisions stations) could be classified as small entities. As we noted above, these estimates are based on a definition that we believe greatly overstates the number of television broadcasters that are small businesses. Further, it should be noted that under the SBA's definitions, revenues of affiliates that are not television stations should be aggregated with the television station revenues in determining whether a concern is small. The estimates overstate the number of small entities since the revenue figures on which they are based do not include or aggregate such revenues from non-television affiliated companies.

The proposed DTV Table of Allotments would also affect low power television (LPTV) and TV translator stations. The Commission's records indicate that currently, there are about 1,750 licensed LPTV stations and 5,050 licensed TV translators. The Commission has also issued about 1,400 construction permits for new LPTV stations. We do not collect individual station financial data for low power television (LPTV) Stations and TV translator stations. However, based on its experience with LPTV and TV translator stations, the Commission believes that all such stations have revenues of less than $10.5 million. We also seek information on the number of low power stations that operate commercially and noncommercially.

4. Alternative Classification of Small Stations

An alternative way to classify small television stations is by the number of employees. The Commission currently applies a standard based on the number of employees in administering its Equal Employment Opportunity Rule (EEO) for broadcasting.[6] Thus, radio or television stations with fewer than five full-time employees are exempted from certain EEO reporting and recordkeeping requirements.[7] We estimate that the total numbers of commercial and noncommercial television stations with 4 or fewer employees are 132 and 136, respectively.[8] These estimates do not include LPTV stations, for which the Commission does not collect employment data.

Description of Projected Reporting, Recordkeeping and Other Compliance Requirements:

The proposals set forth in this action would involve no changes to reporting, recordkeeping and other compliance requirements beyond what is already required under the current regulations.

Federal Rules Which Overlap, Duplicate or Conflict With These Rules

None.

Significant Alternatives To Proposed Rules Which Minimize Significant Economic Impact of Small Entities and Accomplish Stated Objectives:

The DTV Table of Allotments proposed in this action will affect all of the commercial and noncommercial broadcast television stations eligible for a DTV channel in the transition

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[6]The Commission's definition of a small broadcast station for purposes of applying its EEO rule was adopted prior to the requirement of approval by the Small Business Administration pursuant to Section 3(a) of the Small Business Act, 15 U.S.C. § 632(a), as amended by Section 222 of the Small Business Credit and Business Opportunity Enhancement Act of 1992, Pub. L. No. 102-366, § 222(b)(1), 106 Stat. 999 (1992), as further amended by the Small Business Administration Reauthorization and Amendments Act of 1994, Pub. L. No. 103-403, § 301, 108 Stat. 4187 (1994). However, this definition was adopted after the public notice and the opportunity for comment. See Report and Order in Docket No. 18244, 23 FCC 2d 430 (1970).

[7]See, e.g., 47 CFR § 73.3612 (Requirement to file annual employment reports on Form 395 applies to licensees with five or more full-time employees); First Report and Order in Docket No. 21474 (In the Matter of Amendment of Broadcast Equal Employment Opportunity Rules and FCC Form 395), 70 FCC 2d 1466 (1979). The Commission is currently considering how to decrease the administrative burdens imposed by the EEO rule on small stations while maintaining the effectiveness of our broadcast EEO enforcement. Order and Notice of Proposed Rule Making in MM Docket No. 96-16 (In the Matter of Streamlining Broadcast EEO Rule and Policies, Vacating the EEO Forfeiture Policy Statement and Amending Section 1.80 of the Commission's Rules to Include EEO Forfeiture Guidelines), 11 FCC Rcd 5154 (1996). One option under consideration is whether to define a small station for purposes of affording such relief as one with ten or fewer full-time employees. Id. at ¶ 21.

[8]Compilation of 1995 Broadcast Station Annual Employment Reports (FCC form 395B), Equal Opportunity Employment Branch, Mass Media Bureau, FCC.

period and a significant number of the low power and TV translator stations. It is expected that the proposed allotments will constitute the population of channels on which broadcasters will operate DTV service in the future. Allotment of these channels is therefore expected to be very important to the broadcast community. All of the affected stations will have to obtain new transmission facilities and, to a varying extent, production equipment to operate on the new DTV channels. The cost of equipment to operate on these new channels is expected to vary from $750,000 upwards to $10 million.[9] The actual cost of equipment is expected to vary in accordance with the degree to which the station becomes involved in DTV programming and origination.

The proposed DTV Table of Allotments will also affect low power television (LPTV) and TV translator stations. Total investment in the LPTV and TV translator facilities is estimated to be about $150 - $250 million.[10] Studies by the FCC staff indicate that there is not sufficient spectrum to accommodate both low power stations and DTV stations.[11] These studies estimate that up to about one-third of all LPTV stations and one-quarter of all TV translators may have to cease operation to make way for DTV stations. In general, most LPTV stations within major markets will be affected, while rural operations will be affected to lesser degrees. In this regard, we note that, at our December 12, 1995, en banc meeting on digital television, Mr. Sherwin Grossman of the Community Broadcasters Association expressed concern about the impact that implementation of DTV service would have on the low power TV industry.[12] He argued that to avoid affecting low power TV service we should pick a date or range of dates and require all existing stations to convert to DTV service, rather than giving them a second channel, and that we should not look to recover TV spectrum until everyone who needs broadcast service is able to receive it. Similarly, Abacus Television (Abacus), in comments submitted in response to our Fourth Further Notice, argued that we

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[9] See William Y. Zou (PBS) and James A Kutzner (Twin Cities Public Television) "Practical Implementation of Advanced Television: Update 1996" presented at the 30th SMPTE Advanced Motion Imaging Conference, Feb. 1-3, 1996, Seattle WA., at page 16; and Broadcaster's Comments responding to the Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry (Fourth Further Notice) in MM docket No. 87-268, 10 FCC 10541 (1995), at p. 13.

[10] See Comments of the Community Broadcasters Association in response to the Fourth Further Notice, at p. 1.

[11] See Second Report and Order/Further Notice of Proposed Rule Making (Second Report/Further Notice) in MM Docket No. 87-268, 7 FCC Rcd 3340, at paras. 39-45; and Second Further Notice of Proposed Rule Making (Second Further Notice), 7 FCC Rcd 5376 (1992), at para. 41. See also "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).

[12] See Testimony of Sherwin Grossman, Community Broadcasters Association, FCC *En Banc* Meeting on Children's Television, December 12, 1995, at pp. 2 and 4-7.

should attempt to protect low power stations in order to protect the unique and diverse services that low power stations provide the public.[13]

The process of creating DTV channel allotments is an optimization task that offers a great number of possible alternative "mixes" of channel allotments for each community. In evaluating the merits of allotment alternatives, the Commission intends to make every effort to accommodate the needs and concerns of all affected parties. We also intend to consider negotiated allotment/assignment agreements submitted by broadcasters. We expect that the final Table that is adopted will contain a number of revisions of the allotments proposed herein.

As indicated above, we also intend to consider policies for minimizing the impact of our DTV allotment and spectrum recovery proposals on low power stations. In particular, we are proposing to permit displaced low power stations to apply for a suitable replacement channel in the same area without being subject to competing applications. We will also permit low power stations to operate until a displacing DTV station or new service provider is operational. Further, we are proposing to allow 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. Finally, we intend to explore other possibilities that would preserve access to LPTV programming. One approach would be to require DTV stations to devote a portion of their channel capacity to the carriage of local LPTV stations that are displaced. Another approach would be to require that all full service broadcasters in a market agree on some arrangement for the carriage of the programming of displaced LPTV stations during the transition.

We recognize that in addition to the costs incurred to upgrade engineering and technical operations from analog to digital transmission, small stations will also incur costs to promote their new channel identification. Such costs may include: advertising and publicity on-air and additional media; changes to the signage mounted in studio and newsroom sets; channel identification on vehicles, camera/video equipment and accessories; graphic design, typesetting and printing costs for new stationary and paper products; and the production of sales marketing and promotional materials. We seek comment on the type of modifications, production and costs necessary to facilitate a transition to a new channel and the economic impact these expenses will have on small commercial and noncommercial television stations. We seek comment on whether the Commission should adopt measures that will assist small stations (as classified under either the SBA definition or their number of employees) in their transition, either in their cost to upgrade technical operations or new channel identification.[14] If such measures should be taken, please provide recommendations and state with particularity what class of small stations should be the beneficiaries of such proposals.

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[13] See generally Comments of Abacus Television Company in response to the Fourth Further Notice.

[14] SBREFA allows the Commission, inter alia, to consider whether there should be "the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities." 5 U.S.C. § 603(c)(2).

It is possible that there may be some small stations that will be required to move a second time,[15] and will incur additional costs, within a relatively short period of time, to promote their new DTV channel identification. We seek comments on how to minimize or offset these additional costs to a small station who is also subjected to a second move.

[15] See para. 21, supra.

SEPARATE STATEMENT OF
CHAIRMAN REED E. HUNDT

Re: *Digital Television Systems and Their Impact Upon the Existing Television Broadcast Service*, Sixth Further Notice of Proposed Rule Making,
MM Docket No. 87-268

I am pleased that we are moving forward on launching digital television.

The staff of our Office of Engineering and Technology has worked long and hard on the allotment plan we issue today for comment. They have developed a plan that they strongly believe serves the public interest, and I'm certainly inclined to agree.

The plan accommodates every eligible full-service broadcaster. It replicates broadcasters' current service areas. It uses both the VHF and UHF bands. It is neutral as between interference caused to digital and analog stations, as opposed to disfavoring analog stations. This is a series of reversals from the Commission's position in 1992. Between then and now, broadcasters presented facts and arguments during regular meetings with our staff that persuaded them to change course. And I'm inclined to support the staff plan in those respects.

On one issue broadcasters have failed to persuade our staff: whether we should attempt to place as many digital licenses as possible in what ultimately will be the core digital broadcast spectrum. The staff believes that we should maximize digital allotments in the spectrum at channels 7-51, the core, and minimize digital allotments elsewhere. Again, I'm inclined to agree.

Doing so has important benefits. It limits the amount of "repacking" the Commission would have to do later on. Repacking would involve moving broadcasters from one channel to another, which could be costly for broadcasters and distracting to viewers.

An even greater benefit is that the OET approach carries with it the possibility of rapid recovery of a substantial amount of spectrum. It would allow us to recover in the near future the vast bulk of the 60 MHz of spectrum at channels 60-69, which is lightly used by analog broadcasters. We could auction that spectrum for flexible use, generating funds that could be used for many purposes, including rebuilding schools and funding PBS. We could also use a portion of that spectrum to solve the serious spectrum needs of the public safety community. We've had great luck traveling this road before. Roughly 20 years ago we recovered UHF TV channels 70-84 and reallocated them for cellular telephone service, a decision that helped jumpstart an industry and that has paid enormous dividends.

For these reasons a diverse collection of organizations has urged us to give serious consideration to the OET core-spectrum plan with a view toward adopting it: the Association of Public Safety Communications Officials, the National Governors Association, the Association of Public Television Stations, and the National Taxpayers Union.

The benefits of the OET plan appear to be enormous. And the costs appear to be minimal.

None of the broadcasters now at channels 60-69 will be harmed, nor would the handful of digital broadcasters that would be placed there. These broadcasters' channels would not be auctioned and their operations would be protected against interference. If the Commission ultimately decides -- as it did in connection with PCS -- to require new licensees to pay for relocating incumbents, the OET plan could be enormously beneficial to broadcasters at channels 60-69.

The difference in interference and replication between the OET plan and one that would put many digital broadcasters at channels 60-69, as MSTV has advocated, appears to be extremely small. The difference is a maximum of 1.4% for replication and 0.7% for interference. Using even more precise calculations (Longley-Rice calculations), the OET plan achieves 99% geographic and population replication. It is virtually impossible that any other plan could do noticeably better.

It is true that the OET allotment plan raises some difficult issues with respect to low power television and translator stations. But that is true of the approach that MSTV has advocated, and it is true of any plan that attempts to find spectrum for more than 1600 broadcast licensees. We will work closely with the low power and translator industries to find creative solutions to these problems.

The NPRM specifically asks for comments on the costs and benefits of the OET approach as compared to the MSTV approach or any other approach. I look forward to thorough comments and hard data on costs and benefits. The Commission should, of course, adopt a DTV allotment plan that maximizes social benefits and minimizes social costs.

Two last points. In addition to the principles that animate the allotment plan on which we seek comment, the NPRM contains as an appendix a draft Table of Allotments.

Let me stress that this is a draft. Our staff will continue to improve on it, and it will do so working cooperatively with the broadcast industry.

Also, our Notice anticipates industry-generated deviations from the Table both before and after its adoption. It encourages broadcasters in a community to propose alternative plans before adoption of the Table, and -- accepting a suggestion from MSTV -- it proposes that the Commission look to a "frequency coordinator" after adoption of the Table to help address modifications to it. This flexibility could, for example, allow broadcasters in a community to choose to share a single transmitter, reducing the costs of building a digital system and

perhaps facilitating the development of over-the-air broadcasting as a multichannel competitor to cable.

OET has worked extremely long, extremely hard and extremely well on this delicate and difficult task. They should be commended for their diligence in striving to put together a plan that will fully serve the public interest.

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