

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

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

To: The Commission

FURTHER PETITION FOR RECONSIDERATION

Maranatha Broadcasting Company, Inc. ("MBC"), licensee of television broadcast station WFMZ-TV, Channel 69, Allentown, Pennsylvania, through counsel and pursuant to Section 405 of the Communications Act and Section 1.429 of the FCC's rules, hereby petitions for reconsideration of the FCC's *Memorandum Opinion and Order* in MM Docket No. 87-268, FCC 98-024, released March February 23, 1998 (the "MO&O"), insofar as the FCC in the MO&O refused to change the allotment, in the *Sixth Report and Order* in this proceeding (12 FCC Rcd 14588 (1997)) (the "*Sixth R&O*"), for digital television broadcasting, of Channel 46 to WFMZ-TV and WWAC-TV, Atlantic City, New Jersey, in substantial derogation of the FCC minimum separations standards for DTV stations.¹ In abiding with the status quo, the FCC failed to consider properly filed comments by MBC which showed that, in deriving a paired DTV channel allotment for WFMZ-TV, the FCC had relied on erroneous information in its own data base concerning WFMZ-TV's antenna.² In addition,

¹ The MO&O was published in the *Federal Register* at 63 *Fed. Reg.* 13546 (March 20, 1998).

² The FCC's database incorrectly specified an orientation for the main lobe of WFMZ-TV's directional antenna at 0° rather than 160°, which is the actual orientation, as reflected by the

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in disposing of MBC's and other petitions for reconsideration of the *Sixth R&O*, the FCC followed certain arbitrary "ground rules" which served only the convenience of the FCC, precluded meaningful review of the WFMZ-TV and other substandard DTV allotments and, ultimately, reflected an abdication of the FCC's responsibility to determine where the public interest, convenience and necessity lies.

The FCC's primary goal in developing a parallel Table of DTV Allotments was to permit existing television licensees to replicate, with their DTV facilities, the areas and populations served by their currently authorized NTSC stations. *Sixth R&O*, 12 FCC Rcd at 14605-07. To replicate existing service areas, it was imperative that the database used by the FCC accurately reflect the currently authorized facilities of those NTSC stations. In the case of WFMZ-TV, the information used by the FCC was, manifestly, inaccurate.³

The error in the FCC's database had two consequences, each of which was inimical to the FCC's goals in the DTV allotment proceeding and the public interest. First, areas and populations

station's license.

³ Attachment A is a page printed from the FCC's database on March 5, 1998, *after* the release of the *MO&O*. Television stations' authorized directional antenna patterns are often shown in the FCC's database with a reference orientation at 0°. However, the FCC's software generally instructs the computer, when calculating coverage and interference, to rotate the antenna pattern so as to reflect the actual, rather than reference, orientation. In the case of WFMZ-TV, the staff, in inputting the antenna data for WFMZ-TV, neglected to instruct the computer to rotate the antenna pattern. Accordingly, when the staff ran its DTV channel allotment program, the computer assumed that the major lobe of WFMZ-TV's signal was oriented due north, rather than south-southeast as is actually the case. This was confirmed in post-*MO&O* conversations between MBC's counsel and Mass Media Bureau Assistant Chief Keith Larsen and between MBC's consulting engineer and Robert Eckert of the Office of Engineering and Technology.

listed in the *Sixth R&O* for Channel 46 were not closely related to WFMZ-TV's existing service.⁴ Second, the FCC erroneously concluded that there was no conflict between the Channel 46 DTV allotment at Allentown and the Channel 46 allotment for Atlantic City.

Because of the substantial short-spacing, and the obvious adverse implications for future improvements of MBC's DTV facilities, MBC sought reconsideration of the *Sixth R&O*, calling the FCC's attention to the fact that the Channel 46 allotments at Allentown and Atlantic City represented one of the worst short-spacings in the new DTV table.⁵ *Petition for Reconsideration*, p. 2. Twice, at an earlier stage in the proceeding, in response to proposals for unrealistically low power limits for MBC's DTV facilities in the *Sixth Further Notice of Proposed Rule Making*, FCC 96-207, released August 14, 1996, MBC suggested that there appeared to be an error in the FCC's database record of WFMZ-TV's facilities. *Comments*, filed November 22, 1996, n. 4; *Reply Comments*, filed January 24, 1997, p. 2. In addition, working with MSTV, Inc., and other broadcasters to identify and correct errors in the FCC's (and MSTV's database), MBC's General Manager wrote to MSTV on October 23, 1996, to point out that the directional antenna pattern reflected in both databases was in conflict

⁴ The precise amount of the disparity is uncertain -- because MBC's consulting engineer has been unable to replicate the FCC's population figures -- but the number was certainly substantial. In the *Comments* referred to above, MBC showed that the population within WFMZ-TV's authorized NTSC Grade B contour is more than 3.1 million. In the *Sixth R&O*, using an incorrect antenna orientation that pointed away from the market's major population center, Philadelphia, rather than toward it, the FCC calculated that WFMZ-TV's existing interference-free service extends to approximately 2.1 million persons.

⁵ Section 1.429(i) of the Rules states that the FCC staff "may" dismiss a "repetitious" Petition for Reconsideration. Because the issues raised in this petition, including the FCC's failure to even consider MBC's previous comments, are issues the FCC has not addressed, or had the opportunity to address, this petition is not truly "repetitious" and should be considered. See *Local Exchange Carrier Validation and Billing Information for Joint Use Calling Cards*, 11 FCC Rcd 6835 ¶ 10 (1996) (Commission may dismiss as repetitious second petition for reconsideration that "raises no new arguments").

with the station's FCC license. Only several months after filing its Petition for Reconsideration of the *Sixth R&O* was MBC able to learn that the FCC had not heeded its comments concerning the *Sixth Further Notice* and had allotted Channel 46 to Allentown in reliance on inaccurate data concerning the WFMZ-TV antenna that was dramatically at odds with the station's authorization and operation.

Soon after making this discovery, and in response to an FCC public notice ("FCC Seeks Comment on Filings Addressing Digital TV Allotments," released December 2, 1997) MBC filed (on December 17, 1997) "Comments on Ex Parte Communications Regarding the DTV Table of Allotments and Further Supplement to Petition for Reconsideration." These Comments specifically directed the FCC's attention to the error in its database. *Comments*, pp. 2-3 and Engineering Exhibit pp. 2-5 and Figure 2.

It is apparent from the *MO&O* that the FCC gave absolutely no consideration to MBC's *Comments*. The evidence for this conclusion is the reliance in the *MO&O* (§ 562), in denying MBC's petition, on area and population data provided by MSTV which had been shown in MBC's *Comments* to substantially understate WFMZ-TV's NTSC service.

In addition to concluding, erroneously, that the *Sixth R&O*'s allotment of Channel 46 represented a reasonable approximation of WFMZ-TV's NTSC service, the FCC also denied MBC's petition because "there are no alternative DTV allotments that would improve this situation without affecting other broadcast stations." *MO&O*, § 562. This, and variations on the same theme, was among several arbitrary ground rules used by the FCC to rationalize the rejections of numerous petitions for reconsideration. For example, in rejecting ABC's request that it eliminate a short-spacing between its NSC Channel 7 allotment in New York City and a Channel 8 DTV allotment at

Newton, New Jersey, the FCC stated: “[W]e are generally not changing the DTV allotment of one broadcaster at the request of another. We have provided for parties to negotiate allotment changes and will typically grant requested changes only where all affected parties agree.” *MO&O*, ¶ 448. *See, generally, MO&O*, ¶ 187. A similar FCC ground rule directed the denial of petitions where the petitioning party did not propose a specific alternative channel assignment. *See, e.g., MO&O*, ¶ 190 (“[c]ertain petitioners question the adequacy of the DTV channels allocated to their stations but do not request the use of specific alternative channels or supply any information to show that the DTV channels provided to their stations do not comport with our DTV allotment principles and goals. In general, we are declining to grant such requests”); ¶ 394 (“[i]n the absence of any specific request for a different channel by Sonshine for itself or WBAL-TV . . . we continue to believe that the DTV channel 59 allotment provided for WBPH-TV is appropriate”). The FCC imposed these ground rules notwithstanding general agreement that private parties (other than MSTV) did not have the computing capability to replicate the results of the FCC’s channel allotment software. In so doing, the FCC’s statutory responsibility to determine where the public interest lies was delegated to private parties (by requiring agreement among affected stations) or abdicated altogether (by denying petitions which did not specify a specific alternative assignment).

Following the conversations between MBC’s counsel and consulting engineer with the FCC staff described above, the FCC corrected the error regarding WFMZ-TV’s antenna in its database. MBC’s consulting engineer was advised, informally, that the staff had concluded that the change resulted in the prediction of some additional interference to the NTSC facilities of WBFF-TV, Channel 45, Baltimore, but no additional interference to populations currently served by WFMZ-TV

or WWAC-TV and not already subject to interference.⁶ For that reason, the staff apparently believes that the two Channel 46 allotments satisfy the objectives of the DTV channel allotment process.

The result, however, is to sharply restrict if not eliminate altogether any potential for either station to improve its DTV facilities. In fact, MBC's consulting engineer concludes (Attachment B, p. 8) that WWAC-TV can not increase the power of its DTV facilities in the direction of WFMZ-TV in any circumstances. Beyond the transition period, the maximum power for WFMZ-TV's DTV facilities is 500 kW (*ibid.*), roughly half of the maximum power for DTV stations. While it is theoretically possible that, after the transition, once NTSC operations have ceased and only the DTV-DTV channel separation requirements are applicable, either WFMZ-TV or WWAC-TV might be able to operate on yet another, less restricted DTV channel allotment ("pie in the sky when you die"⁷), such a shift inequitably -- in light of the error in the FCC's database -- imposes costs, delays and other burdens on the station seeking to relocate (for example, the cost of reimbursing other stations required to change frequency to accommodate a fully-spaced channel for WFMZ-TV or WWAC-TV). Such a move is, above all, conjectural, as there is no way of knowing at this point what channels might be available for allotment in the Philadelphia market or to what limitations those channels might be subject.

Of at least equal importance, the present allotments represent an extremely inefficient utilization of the radio frequency spectrum. As outlined in Mr. Will's engineering statement (*ibid.*), with the current antenna reference heights and operating at 50 kW as contemplated in the *Sixth R&O*, WWAC-TV's DTV interfering contour will overlap WFMZ-TV's DTV service contour. Thus, not

⁶ MBC has not been able to independently verify these representations.

⁷ Joe Hill, *The Little Red Songbook*.

only will WWAC-TV be precluded from making any improvement in its DTV facilities, any improvement in WFMZ-TV's DTV facilities will be to areas and populations already subject to interference. As MBC has previously noted in this proceeding, the interference between the two stations will occur in the geographic center of the Philadelphia market, in which both stations operate. *Petition for Reconsideration*, p. 2.

The fact is that MBC was entitled to have the FCC determine its channel allotment on the basis of data which was accurate. The FCC's reliance on inaccurate data for WFMZ-TV was prejudicial and discriminatory, with consequences that are demonstrably inconsistent with the public interest. While it might have served the convenience of the FCC and its staff to shift the burden of finding alternative channel allotments, and the obligation to negotiate agreements on other assignments, to MBC and other licensees, the FCC's convenience is hardly a touchstone of the public interest, convenience and necessity. *See KCST, Inc. v. FCC*, 699 F.2d 1185, 1194 (D.C. Cir. 1983) ("administrative convenience does not justify not granting a waiver").

In an effort to meet one of the FCC's ground rules, MBC has commissioned two separate engineering studies to attempt to locate an alternative DTV channel allotment for either WFMZ-TV or WWAC-TV that would eliminate the short-spacing between without creating, overall, adverse consequences for other allotments. MBC's consulting engineer, Larry H. Will, has concluded (Attachment B, pp. 9-14) that assignment of Channel 8, Channel 25 or Channel 50 to Atlantic City would be superior to the current Channel 46 assignment. Robert H. Fischer, of Third Coast Broadcasting, Inc., was also retained by MBC to separately study possible alternative channel

assignments for Atlantic City.⁸ Mr. Fischer concludes (Attachment C) that Channel 8, although it would, on a predicted basis, cause additional *de minimis* interference to WGAL-TV, Channel 8, Lancaster, Pennsylvania (0.5 percent), and the FCC's DTV Channel 8 allotment to Newton, New Jersey (0.02 percent), is the preferred alternative assignment at Atlantic City.

These are the best available alternatives at Atlantic City involving the change of only a single channel in the DTV Table of Allotments. In all likelihood, the FCC could derive a superior alternative by accommodating a minimal number of additional changes in the table.

If the FCC finds that none of these alternatives is acceptable, it will only underscore the arbitrariness of the limitations the FCC has imposed on licensee's seeking relief from substantially sub-standard allotments.

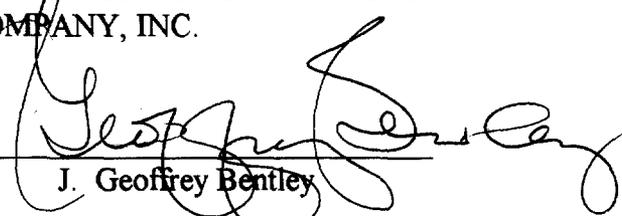
⁸ Mr. Fischer's software was relied on by the FCC in the *MO&O* to make certain discrete changes to the Table of DTV Allotments to minimize conflicts with a number of low power television stations. *E.g.*, *MO&O*, ¶ 345.

For the foregoing reasons, FCC should (1) grant this petition for reconsideration; (2) delete Channel 46 from its Table of DTV Allotments at Atlantic City, New Jersey, and (3) assign Channel 8 or another channel that meets the objectives of this proceeding to Atlantic City in lieu of Channel 46.

Respectfully submitted,

MARANATHA BROADCASTING
COMPANY, INC.

By


J. Geoffrey Bentley

J. Geoffrey Bentley, P.C.
BENTLEY LAW OFFICE
P.O. Box 807
Herndon, Virginia 20172-0807
(703)793-5207

Its Attorney

April 20, 1998

Welcome to TVQ

Today is 5-MAR-78

TVQ prints the parameters for a specified station.
The TV Data Base Last Updated on 980304.

WFMZTV ALLENTOWN PA A Channel 69 Zero Offset BLC1731029KZ
 Sequence No. 109411 Service Class TV ID No. 0 Max HAAT: 36.0 M
 MARANATHA BROADCASTING COMPANY, INC. LIC Dkt Cutoff:
 N Lat 40 33 54.0 W Long 75 26 26.0 1070 kW; HAAT: 313.0 M Com
 RCAMSL: 464 M ; Zone 1; Near Can border Last Updated 950427
 Horiz Polarization: Beam Tilt; Make: AND Model: ODD931029KZ Ref Az 0
 Comment:

WFMZTV ALLENTOWN PA A Channel 69 Zero Offset BMPC1760515KZ
 Sequence No. 109412 Service Class TV ID No. 0 Max HAAT: 36.0 M
 MARANATHA BROADCASTING COMPANY, INC. APP Dkt Cutoff:
 N Lat 40 33 54.0 W Long 75 26 26.0 1780 kW; HAAT: 313.0 M Com
 RCAMSL: 464 M ; Zone 1; Near Can border Last Updated 960523
 Horiz Polarization: Beam Tilt; Make: AND Model: ODD* Ref Az 0
 Comment: DA TABULATIONS UNAVAILABLE.

ATTACHMENT A

ENTER MAKE, MODEL :
AND, ODD931029KZ

Manufacturer: AND Model No.: ODD931029KZ Last Updated 950427

Azimuth (Deg)	Rel. Field								
0.0	1.000	80.0	0.715	150.0	0.642	220.0	0.623	290.0	0.767
10.0	0.994	90.0	0.668	160.0	0.657	230.0	0.608	300.0	0.820
20.0	0.978	100.0	0.631	170.0	0.672	240.0	0.602	310.0	0.873
30.0	0.951	110.0	0.609	180.0	0.676	250.0	0.607	320.0	0.915
40.0	0.915	120.0	0.602	190.0	0.672	260.0	0.631	330.0	0.951
50.0	0.871	130.0	0.608	200.0	0.659	270.0	0.660	340.0	0.978
60.0	0.820	140.0	0.623	210.0	0.642	280.0	0.715	350.0	0.994
70.0	0.767								

ENTER MAKE, MODEL :

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV CHANNEL 69

AND APPLICANT FOR DTV CHANNEL 46

ALLENTOWN, PENNSYLVANIA

ENGINEERING EXHIBIT

IN SUPPORT OF

A FURTHER PETITION FOR RECONSIDERATION IN

THE MO&O ON RECONSIDERATION OF

FCC DOCKET 87-268

**Larry H. Will, P.E.
1055 Powderhorn Drive
Glen Mills, PA 19342-9504**

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV CHANNEL 69 AND

APPLICANT FOR WFMZ-DT CHANNEL 46

ALLENTOWN, PENNSYLVANIA

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MARANATHA BROADCASTING COMPANY, INCORPORATED

DECLARATION OF LARRY H. WILL

Larry H. Will declares and says:

That he prepared the attached engineering exhibit on behalf of MARANATHA BROADCASTING COMPANY, INCORPORATED, Licensee of WFMZ-TV, a Commercial NTSC TV station at Allentown, Pennsylvania.

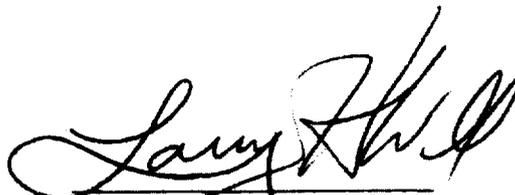
That he has been involved in radio and television broadcast engineering for over 30 years, and that he has previously submitted engineering applications to the Federal Communications Commission.

That he holds a Bachelor of Science Degree in Electrical Engineering from Drexel University, 1966.

That he is a Registered Professional Engineer in the State of New Jersey.

That he is a member in good standing of the Institute of Electrical and Electronic Engineers, the Association of Federal Communications Consulting Engineers, and the Society of Broadcast Engineers.

That all statements contained within this exhibit are true and accurate to the best of his knowledge and belief, and as to such statements made of belief, they are believed to be true, except for information for which the Federal Communications Commission takes official notice.



**Larry H. Will, P.E.
1055 Powderhorn Drive
Glen Mills, PA 19342-9504
(610) 399-1826**

Date: April 18, 1998

MARANATHA BROADCASTING COMPANY, INCORPORATED

LICENSEE OF

WFMZ-TV CHANNEL 69

AND APPLICANT FOR DTV CHANNEL 46

ALLENTOWN, PENNSYLVANIA

ENGINEERING EXHIBIT EE-1

I. BACKGROUND

Maranatha Broadcasting Corporation (MBC) is currently licensed as WFMZ-TV on Channel 69 in Allentown, PA (BLCT-931029KZ) and has a pending application (BMPCT-960515KE) for an increase in Effective Radiated Power. The undersigned has been retained to prepare this Engineering Exhibit in support of WFMZ-TV's Petition for Reconsideration in the FCC M&O on Reconsideration of the 6th Report and Order in MM Docket 87-268 with respect to the FCC proposed allotment of DTV Channel 46 to WFMZ-TV. MBC has previously filed comments in this Proceeding¹.

In the 6th Report and Order, the Commission revised the WFMZ-TV DTV allotment to Channel 46 with a DTV RMS Effective Radiated Power of 50 kilowatts at a reference HAAT of 313 meters. In addition, with the 6th Report and Order, the Commission also allotted DTV Channel 46 to WWAC-TV, NTSC Channel 53, in Atlantic City, New Jersey. These allotments are short spaced by 50.5 km.

In its MO&O on Reconsideration in the 6th Report and Order in Docket 87-268 (Decision), the Commission declined to make any changes in the allotments for DTV Channel 46

¹ Comments filed on June 17th and December 12th, 1997.

for WFMZ-TV in Allentown, Pennsylvania and DTV Channel 46 for WWAC-TV in Atlantic City, New Jersey². After the decision was released, but before publication in the Federal Register, the FCC staff did correct the errors in the Commission's Technical Databases for WFMZ-TV, Allentown, Pennsylvania but did not change either channel allotment.

An extensive review of the Table of DTV Allotments by this office shows that a different channel could be allotted to Atlantic City which would significantly improve the DTV-DTV co-channel short-spacing to which both WFMZ-TV and WWAC-TV are subjected as a result of the FCC's assignment of Channel 46 for both stations in Docket 87-268 without a wholesale revampment of allotments to other stations in the Mid-Atlantic Region.

2. DISCUSSION

The co-channel Channel 46 allotments at Allentown and Atlantic City are substandard by a substantial margin. During the transition to DTV, those NTSC UHF stations authorized to broadcast on a UHF DTV channel will be limited to a maximum power of 200 kW. After the transition, the maximum power for UHF DTV stations will be 1,000 kW, at a reference antenna height of 300 meters. Although, with the facilities (50 kW) assigned in the Sixth Report and Order, WFMZ-DT is not predicted to cause interference to or receive interference from WWAC-DT, the extreme short-spacing between the two allotments can be expected to prevent either station from making improvements now or in the future.

The proposed 41 dBu (F50,90) contour of WFMZ-DT will extend 72.5 km toward Atlantic City. The proposed 41 dBu F(50,90) contour of WWAC-TV will extend 57.3 km toward Allentown. These leaves a margin of only 15.3 km between the protected contours of

² Decision at 562.

these stations, as permitted under the current table, in contrast to approximately a 51 km margin between fully spaced 50 kW DTV allotments. There is no terrain shielding afforded either station which might mitigate the physical short-spacing. Without a population analysis, we are unable to determine for sure if WFMZ-DT will be able to increase power to the maximum permitted during the transition, however, we do know that any power increase for WFMZ-DT would be possible only if WWAC-DT does not seek a power increase. As outlined with the analysis in Paragraph 3 below, and after the transition, the maximum permissible power for WFMZ-DT on Channel 46 will be 500 kW -- and that only if WWAC-DT remains at 50 kW.

No other station in the Philadelphia market is so handicapped. This office has reviewed the entire DTV and NTSC allotment structure in the northeast corridor from northern Virginia to southern Massachusetts with an eye on relative channel density, land mobile exclusions, and, in particular, DTV-DTV *co-channel* short spacing, an item not covered in the M&O on Reconsideration. We note that the revised Table generally has held DTV-DTV co-channel short spacing to a minimum. In our previous filing³, we identified three DTV short spacings to stations within the Philadelphia DMA. They were:

CH 46 Allentown, PA to CH 46 Atlantic City, NJ 145.73 km, 50.5 km
(25.7%) short⁴.

CH 22 Camden, NJ to CH 22, Garden City, NY 166.99 km, 29.31 km
(14.9%) short.

CH 36 Wildwood, NJ to CH 36 Linden, NJ 187.62 km, 8.68 km (4.4%) short.

MBC Petition of June 13, 1997 at Page 4.

73.623(d)(1) requires 196.3 km co-channel spacing in Zone 1 on UHF.

We have now examined the remainder of the DTV television allotments within the Philadelphia DMA specifically for DTV-DTV co-channel spacing. The DTV-DTV nearest co-channel spacings to these remaining Philadelphia DMA total survey area (TSA) DTV stations are:

- CH 25 Reading, PA to Syracuse, NY 296.3 km.
- CH 26 Philadelphia, PA to Albany, NY 306.21 km.
- CH 27 Burlington, NJ to Washington, DC 200.08 km.
- CH 31 Wilmington, DE to Scranton, PA 196.69 km.
- CH 32 Philadelphia, PA to Scranton, PA 160.50 km, 35.8 km (18.2%) short.
- CH 34 Philadelphia, PA to Washington, DC 199.32 km.
- CH 42 Philadelphia, PA to Annapolis, MD 164.24 km, 32.06 km (16.3%) short.
- CH 43 Trenton, NJ to Schenectady, NY 266.37 km.
- CH 49, Atlantic City, NJ to Scranton, PA 281.31 km.
- CH 55 Wilmington, DE to Hagerstown, MD 237.1 km.
- CH 64 Philadelphia, PA - None very close.
- CH 66 Vineland, NJ to - None very close.
- CH 67 Philadelphia, PA - None very close.

While a total of 5 of the 15 DTV stations in the DMA were allotted with co-channel DTV-DTV short spacing, WFMZ and WWAC are the only stations within the DMA to receive a *substantial* substandard DTV-DTV co-channel allotment. Also we note that all other co-channel short spaced stations have options within the core after the transition.

While, arguably, other potential channel allotments will be available after the transition, the Sixth Report and Order's allotment of Channel 46 to WFMZ-DT will be disadvantageous vis a vis other stations in at least four significant respects. First, its ability during the transition to make service improvements to achieve coverage comparable to the stations with which it must compete will remain problematic. Second, because NTSC Channel 69, is outside the "core spectrum", WFMZ-DT will not have the option, at the end of the transition, of switching its DTV operations to its own fully spaced UHF channel. Third, even with the abandonment of many channels due to the cessation of NTSC broadcasts, there can be no assurance that there will be any channel available at the end of the transition period that will permit WFMZ-DT to improve its facilities, let alone operate with the maximum permissible facilities for UHF stations. Fourth, even if some improvement should prove possible, WFMZ-DT will be forced to bear the expense (possibly including a change in transmitter location), and viewers will be subjected to the disruption in service, entailed in a switch to a third channel for permanent DTV operation.

3: WFMZ-DT ANALYSIS UTILIZING CONTOUR PROTECTION ONLY.

The allotment of DTV Channel 46 to both WFMZ-DT and WWAC-DT came about, in part, due to the fact that the existing WWAC-TV NTSC operation is only 12.2 kilowatts at 85 meters HAAT. With these parameters, the WWAC-TV NTSC protected Grade B 64 dBu F(50,50) contour extends only 25.5 km in the direction of WFMZ-TV. The existing NTSC Grade B contour establishes the limit of the "protected" population for WWAC-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth even though

the 50 kW allotted power results in a considerable improvement in the distance to the protected contour of WWAC-DT as compared to WWAC-TV⁵.

The WWAC-TV NTSC Grade B contour is thus 119.7 km from the WFMZ-TV (and WFMZ-DT) transmitter site. At that distance, the WFMZ-DT DTV F(50,10) predicted interference contour is 43.889 dBu while the new WWAC-DT F(50,90) contour is 68.97 dBu. Thus the co-channel D/U ratio is 25 dB or 10 dB above the allowable minimum for areas with at least 28 B S/N. Based on these numbers, it appears that WFMZ-TV could increase power towards WWAC-DT to 500 kW, at the reference HAAT, and still meet the required protection, assuming no changes to WWAC-DT.

The WFMZ-TV NTSC presently licensed protected Grade B 64 dBu F(50,50) contour extends 69.1 km in the direction of WWAC-TV. The NTSC Grade B contour establishes the limit of the "protected" population for WFMZ-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth.

The WFMZ-TV Grade B contour is thus 76.07 km from the WWAC-TV (and WWAC-DT) transmitter site. At that distance, the WWAC-DT DTV F(50,10) predicted interference contour is 47.25 dBu while the new WFMZ-DT F(50,90) contour is 44.43 dBu. Thus the co-channel D/U ratio is -2.82 dB or 17.82 dB below the allowable minimum for areas with at least 28 dB S/N. Based on these ratios, WWAC-DT could *not* increase power towards WFMZ-DT under any circumstances.

⁵ The WWAC-DT predicted 41 dBu DTV F(50,90) contour extends 57.3 km towards WFMZ vs 25.5 km for the WWAC-TV NTSC Grade B, a 112% increase.

4. ALTERNATE DTV ALLOTMENTS

In the Decision on Reconsideration, the FCC stated that there were no other available channels for use by WFMZ⁶. A careful review of all television channels from 2 through 50 was undertaken to see what possibilities might exist utilizing a *single* channel change⁷. We used a single channel option due to time restraints and to eliminate a wholesale alteration of the Table. Further, as the Commission is well aware, discussions continue within the consulting engineering community, which as yet is unable to duplicate accurately the software and algorithms utilized by the FCC staff in developing allotment criteria, particularly as to population counting⁸. Thus we were unable to do a complete population analysis at this time.

From this search, we concluded that there indeed was no channel switch for WFMZ-TV in Allentown that was workable with a simple single channel change, so we limited our search for Atlantic City only⁹. Further, we eliminated all but channels 8, 16, 25, 39, and 50 as being completely unworkable in Atlantic City. Even so, none of the remaining channels completely meet the criteria of 73.622(d)(1), 73.610(b)(1), or 73.698 (Table II), but some have restraints that are similar to those used elsewhere by the Commission in developing the transition to DTV and are superior to the present situation.

DTV Channel 8. A channel 8 DTV allotment in Atlantic City has no adjacent channel problems. Being 152.43 km from channels 7 and 9 in New York it meets the requirements of 73.623(d)(1) for adjacent channel DTV-NTSC spacing. The allotment does not quite meet the

⁶ Decision at 562.

⁷ We limited our study to the "core spectrum" to prevent a second channel move by any affected station.

⁸ The Commission recently delayed accepting LPTV displacement application because of this problem.

⁹ The Atlantic City location on the east coast eases the constraints on allotments.

co-channel requirements for NTSC Channel 8 in New Haven, CT (260.02 km vrs 272.7 km required). Channel 8 would also be short spaced to NTSC Channel 8 in Lancaster, PA by 18.28 km, and to proposed DTV Channel 8 in Newton, NJ. All short spacings are with different DMA's and in the case of Newton, the percentage short spacing that would be created is approximately the same as the current Channel 46-46 DTV-DTV short spacing. (25.88% vrs 25.76%). The short spacing to NTSC Channel 8 in Lancaster, PA is consistent with other DTV-NTSC short-spacings used in the allotment process¹⁰. We also note that the DTV-NTSC spacing with Channels 7 and 9 in New York is not met by the allotment of Channel 8 at Newton (59.09 km actual vrs 88.5 km required).

The allotment of DTV Channel 8 to both WFME-DT and WWAC-DT would result in the following. The WWAC-TV Channel 53 present NTSC UHF protected Grade B 64 dBu F(50,50) contour extends only 25.5 km in the direction of WFME-TV. The NTSC Grade B contour establishes the limit of the "protected" population for WWAC-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth.

The existing WWAC-TV Channel 53 Grade B contour would be 155.71 km from the WFME-TV (and WFME-DT) transmitter site. At that distance, the WFME-DT DTV Channel 8 F(50,10) predicted interference contour is 22.949 dBu while the new WWAC-DT DTV Channel 8 F(50,90) contour (operating at 3.2 kW) is 60.0 dBu. Thus the co-channel D/U ratio is 37.05 dB or 22.05 dB above the allowable minimum for areas with at least 28 B S/N. Thus utilizing Channel 8 for WWAC-DT and WFME-DT does not result in new interference to WWAC-DT.

¹⁰ For example, the Table allots Channel 5 DTV to Hartford, CT 124.57 km short-spaced to NTSC Channel 5 in New York.

The WFME-TV NTSC presently licensed protected Grade B 64 dBu F(50,50) contour extends 72.2 km in the direction of WWAC-TV. The NTSC Grade B contour establishes the limit of the "protected" population for WFME-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth.

The existing WFME-TV Channel 63 Grade B contour would be 109.11 km from the WWAC-TV (and WWAC-DT) transmitter site. At that distance, the WWAC-DT DTV Channel 8 F(50,10) predicted interference contour is 31.577 dBu while the new WFME-DT DTV Channel 8 F(50,90) contour is 41.4 dBu. Thus the co-channel D/U ratio is 9.84 dB or 6.46 dB below the allowable minimum for areas with at least 25.1 dB S/N¹¹. However, a review of the terrain between the WWAC-TV and WFME-TV sites shows that at the edge of the WWAC-TV Grade B contour in the direction of WWAC-TV, and at 30 foot receiving antenna height, reception of WWAC-DT would be terrain blocked by the *curvature of the earth* due to the low transmitting height of WWAC-TV. In addition, a significant portion of the WFME-TV NTSC predicted Grade B coverage area in the direction of WWAC-TV is terrain blocked by the dual Watchung Mountain range in north central New Jersey. This range is located approximately 47 km from the WFME-TV transmitter site and extends to 500 feet AMSL including tree cover. Figure 1 shows the prominent terrain conditions along the entire 176-356 degree radial.

Based on the above calculations and on the terrain data, and assuming no other interfering signals to WFME, we believe that WFME would experience only slight additional interference from WWAC-DT operating on DTV Channel 8.

DTV Channel 16. Even though not discussed in the 6th Report and Order, we note that by an FCC Policy Statement, Channel 16 is currently being used for some Public Safety

¹¹ From 73.623(c)(2), on Channel 8 at 41.4 dBu desired level, the required S/N is 16.3 dB.

communications in New York City and the allotment of Channel 16 DTV in Atlantic City would be approximately 100 km short spaced to the 250 km requirement provided for in the 6th Report and Order. Channel 15 is also used for Land Mobile in New York City and the proposed allotment would be approximately 16 km short spaced to New York. The allotment meets the co-channel requirements for NTSC Channel 16 in Scranton, PA but is short spaced to NTSC Channel 16 in Salisbury, MD by 106.85 km. Channel 16 has no *television* adjacent channel constraints but it is significantly less than the 100 km spacing to NTSC Channel 23 in Camden, NJ.

DTV Channel 25. A channel 25 DTV allotment in Atlantic City would have no adjacent channel problems. Being 152.43 km from DTV Channel 24 in New York and 100.95 km from DTV Channel 26 in Philadelphia, PA, it meets the requirements of 73.623(d)(1) (88.5 km) for adjacent channel DTV-DTV. The proposed channel is short spaced to NTSC Channel 25 in New York City by 96.4 km¹². The proposed allotment would be 46.21 km (23.4%) short spaced to DTV channel 25 reference coordinates in Reading PA¹³. The allotment does easily meet the co-channel requirements for DTV Channel 25 in Richmond, VA. Channel 25 is 15 channels below NTSC Channel 40 in Wildwood but that fact is not an impediment for DTV use.

The allotment of DTV Channel 25 to both WTVE-DT and WWAC-DT would result in the following. The WWAC-TV NTSC protected Grade B 64 dBu F(50,50) contour extends only 25.5 km in the direction of WTVE-TV. The NTSC Grade B contour establishes the limit of the "protected" population for WWAC-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth.

¹² We note that the Table allots Channel 57 DTV to Harrisburg, PA 99.65 km short-spaced to NTSC Channel 57 in Philadelphia, PA.

¹³ The current Reading NTSC station transmitter location is 150.09 km distant.

The WWAC-TV Grade B contour would be 124.59 km from the WTVE-TV (and WTVE-DT) transmitter site. At that distance, the WTVE-DT DTV F(50,10) predicted interference contour is 50.092 dBu while the new WWAC-DT F(50,90) contour is 68.97 dBu. Thus the co-channel D/U ratio is 18.88 dB or 3.88 dB above the allowable minimum for areas with at least 28 B S/N. Thus utilizing Channel 25 for WWAC-DT does not result in new interference to WWAC-DT.

The WTVE-TV NTSC presently licensed protected Grade B 64 dBu F(50,50) contour extends 95.4 km in the direction of WWAC-TV. The NTSC Grade B contour establishes the limit of the "protected" population for WTVE-TV assuming that there is no other existing interference caused by other NTSC stations on this azimuth.

The WTVE-TV Grade B contour would be 54.69 km from the WWAC-TV (and WWAC-DT) transmitter site. At that distance, the WWAC-DT DTV F(50,10) predicted interference contour is 54.137 dBu while the new WTVE-DT F(50,90) contour is 38.45 dBu. Thus the co-channel D/U ratio is -15.69 dB or 30.69 dB below the allowable minimum for areas with at least 28 dB S/N. Based on these numbers, and assuming no other interfering signals to WTVE, WTVE would experience additional interference from WWAC-DT. However much of this new interference would occur beyond the new WTVE F(50,90) dBu protected contour which only extends 89 km towards WWAC-DT.

DTV Channel 39. By substituting DTV channel 39 for DTV channel 36 for WMGM-TV, Wildwood, channel 36 might be allotted to WWAC for DTV. However, this would reduce the current channel 36 co-channel DTV-DTV spacing with channel 36 DTV, Linden, NJ from 187.62 km to 152.43 km. The proposed DTV channel 39 would be 61.13 km short spaced