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

Federal Communications Commission
Office of the Secretary

In the Matter of)
)
Advanced Television Systems)
and their Impact on the)
Existing Broadcast Service)
)
Review of Technical and)
Operational Requirements:)
Part 73-E, Television)
Broadcast Stations)
)
Reevaluation of the UHF)
Television Channel and)
Distance Separation)
Requirements of Part 73 of)
The Commission's Rules)

MM Docket No. 87-268

**SUPPLEMENTAL COMMENTS
OF
NATIONAL BROADCASTING COMPANY, INC.**

Pursuant to Section 1.45(c) of the Commission's Rules, National Broadcasting Company, Inc. (NBC) seeks leave to file the following supplemental comments in the above-referenced proceeding. Specifically, these supplemental comments address a spectrum study of the Mobile Communications Division of the Telecommunications Industry Association (TIA) that was adverted to in comments filed in this proceeding on November 30, 1988, but not detailed until reply comments were filed on January 23, 1989. Thus, interested parties did not have an opportunity to comment upon this study during the regular comment cycle in this proceeding. Therefore, NBC urges the Commission to accept for the record in this proceeding the following observations on the TIA study.

To date, much of NBC's research and development in the area of advanced television systems, conducted in conjunction with the David Sarnoff Research Center (Sarnoff) in Princeton, New Jersey, has focused initially upon six-megahertz, NTSC-compatible advanced television technology. Nevertheless, as our previous comments in this proceeding, many other public statements and public demonstrations have made abundantly clear, this is but the first phase of a complete advanced television system

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that is designed to evolve, in a nondisruptive manner as technology and consumer demand develop, into a system that will require greater than six megahertz of spectrum to provide even greater quality enhancement using digital techniques and provide service comparable with that which can be provided by other media, a critical public interest goal for the free, over-the-air American television system.

Thus, NBC remains very concerned that additional spectrum be available for broadcasters to deliver ACTV, or some other advanced television system requiring greater than six megahertz, whether it be an NTSC-compatible spectrum-augmentation ATV system, or a system that is presented in simulcast, in order to preserve service to NTSC receivers, which the Commission has found to be an important public interest concern in connection with the near-term introduction of ATV service in this country. Toward this end, NBC experts and those from numerous other companies have been working long and hard with Commission staff and Commission computer resources on Working Party 3 of the Planning Subcommittee of the Advisory Committee on Advanced Television Service (ACATS) to conduct exhaustive studies on the potential availability of spectrum capacity for ATV service. According to the ACATS Second Interim Report, submitted on April 26, 1989, this work is expected to continue during ACATS' second two-year term, which will run through November, 1991, and it is expected to include actual propagation studies in the frequency bands being considered for ATV service, particularly the differential characteristics between VHF and UHF, to be conducted by the Advanced Television Test Center.

One major benefit to be derived from this unprecedented pooling of expert resources is that each assumption and conclusion will be subject to criticism and evaluation during the study process itself, which is bound to contribute to more reliable results. The same cannot be said for the TIA study. This is not to aver that there should only be one spectrum study. TIA assuredly is free to conduct its own independent studies, as it is to critique the work to date and future work of PS/WP-3 and any other spectrum analysis that may be conducted in connection with ATV development. Nevertheless, the cooperative work of experts from both the Commission and numerous private sector organizations conducted under the Advisory Committee umbrella ought not to be undercut by the rather facile assertion of TIA that "...the Commission has an opportunity in this proceeding to achieve a 'win-win'" between broadcast and land mobile spectrum interests.

At a minimum, the assumptions underlying the TIA study should be critically evaluated, so that the reliability of the results can be tested. Such an examination reveals several noteworthy inaccuracies that force one to call the results into question. In the first place, TIA used an outdated FCC data base (September, 1987) that, even after modification, failed to include 176 stations, construction permits or pending applications nationwide that were considered in comparable studies conducted by PS/WP-3. Moreover, only stations east of Ontario, Canada, and south through Louisiana were studied, and, within this area, 13 stations were omitted. The TIA analysis failed to consider the impact of stations and assignments in neighboring states outside the 14-state east coast region it chose to study. Unfortunately, the impact of radio frequency interference does not stop at artificial geopolitical boundaries, so it is unrealistic to extrapolate conclusions about repacking from less than a full coast-to-coast sample.

A similar criticism can be applied to TIA's failure to consider Canadian and Mexican assignments. Consideration of whether to grant any status to unoccupied foreign assignments is not simply a matter of public policy, and the United States government cannot simply choose to ignore them in any UHF repacking plan. U.S. treaties with Canada and Mexico cover not only the use but also the allocation, and assignment of channels on either side of the border.¹ It is not at all clear that the United States could lawfully act in derogation of the separation requirements established in these treaties unilaterally by disregarding existing but unoccupied assignments on either side of the border, as TIA suggests.

An additional problem with the TIA study is that it relies upon Zenith's originally-proposed cochannel distance separations that have since been revised upward from 67-to-87 to 80-to 95 miles. See April 18, 1989 memorandum from Wayne Luplow to SS/WP-1. Finally, the analysis assumes elimination of all UHF taboos for NTSC to NTSC stations. In light of the present dearth of experimental data to confirm that elimination of all taboos is a realistic possibility, the assumption must be regarded as at least somewhat premature, if not rash. Moreover, even if complete taboo elimination should become possible at

¹Allocation of Television Channels between the United States and Canada, Pike & Fischer, Current Service*, at 41:141; Allocation of Television Channels between the United States and Mexico, Pike & Fischer, Current Service*, at 41:121, Agreement between the United States and Mexico Concerning UHF Television Channel Assignments, Pike & Fischer, Current Service*, at 41:135.

some time in the future, its implementation would render useless existing NTSC receivers, and it is unreasonable to assume that the Commission would undertake an action resulting in such a consequence in the near future.

Based at least in part upon its spectrum repacking analysis, TIA's Reply Comments offer four scenarios whereby, it contends, ATV could be implemented within the existing VHF and UHF bands, with sufficient spectrum remaining for additional land mobile sharing. The first two proposals would involve ATV implementation within existing 6-megahertz channels, and the ACTV-I system is given as an example of an ATV system that could exist under these approaches. As we have pointed out above, however, ACTV-I is but part of an evolutionary system that is designed ultimately to expand into greater-than-6-megahertz ATV. Moreover, until actual system testing has progressed, it is premature to assume that the same propagation considerations that currently might permit broadcast/land mobile sharing under certain circumstances would continue to apply with any 6-megahertz, NTSC-compatible ATV system.

Similarly, under TIA's second proposal, which assumes again a 6-megahertz, NTSC-compatible ATV system and repacking of existing UHF television stations into upper (or perhaps lower) UHF channels, the impact of taboo elimination simply has not been tested sufficiently to be relied upon as a viable option. Additionally, the enormous impact of repacking on the public, including the need to replace existing receivers, if taboos are eliminated, is nowhere taken into consideration by TIA.

The third option, 6-megahertz simulcast and land mobile sharing, assumes Zenith's originally proposed cochannel distance separations, already acknowledged to be unrealistic by Zenith. Finally, the fourth option, similar to number three but with repacking and reallocation to land mobile, also relies upon infeasible distance separations, as well as presenting the myriad problems of repacking.

In conclusion, while some of the ideas in TIA's approach no doubt bear further consideration and development, on account of (1) the flawed assumptions on which its study was based, (2) its failure to consider fully the complexities involved in any repacking scheme and (3) the lack of any actual propagation testing of any of the proposals to see if they would work in the real world, it is overstating the case to conclude that any of TIA's proposals could be considered a realistic panacea for the many and complex spectrum issues facing the Commission and the industry with regard to the spectrum requirements of

either ATV or land mobile. These problems undoubtedly will continue to be studied in depth in the ACATS context and by other interested parties, and it is to be hoped that a prompt solution will be achieved that will satisfy as many of the competing needs and interests as possible. Nevertheless, TIA's protestations to the contrary notwithstanding, none of its proposals in their present form present a viable solution.

Respectfully submitted,

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