

equipment on which to receive different programming. Moreover, such a scenario is likely to contribute to consumer confusion and hesitation to purchase any ATV equipment whatsoever.

Whether or not the Commission has the jurisdiction to require that video media that do not use spectrum adopt ATV standards that are compatible with the broadcast standard is not clear. Certainly, the Commission can and should require that cable transmit ATV in a broadcast-compatible manner. See, e.g., U.S. v. Southwestern Cable Co., 392 U.S. 157, 177 (1968) (FCC may take such actions to regulate cable as are "imperative for the achievement of [the] agency's ultimate purposes," quoting Perman Basin Rate Cases); also see U.S. v. Midwest Video Corp., 406 U.S. 649 (1972).

The Notice also raises the question of whether extension of the agency's authority to non-spectrum using media would be sustained. The 1962 All-Channel Receiver Act, P.L. 87-529, 76 Stat. 150, 47 U.S.C. 303(s) and 330, clearly gives the Commission authority to require that all television receivers be equipped to receive "adequately...all frequencies allocated by the Commission to television broadcasting." Moreover, the Southwestern Cable case, supra, sustained the Commission's authority to "issue such orders, not inconsistent with this [Act], as

may be necessary to the execution of its functions.' 47 U.S.C. Sec. 154(i)," and mandating ATV compatibility across media may well be necessary to the Commission's function of "study[ing] new uses for radio, provid[ing] for experimental uses of frequencies, and generally encourag[ing] the larger and more effective use of radio in the public interest." 47 U.S.C. 303(g).

In conclusion, it appears that the Commission could require cross-media ATV compatibility, and it should do so. At a minimum, it should strongly encourage the industries involved to provide such compatibility.

E. HDTV Production Standard

At paragraph 21, the Notice raises questions regarding HDTV production standards and standards conversion.

For a considerable time, NBC worked with others in the industry and the U.S. government to achieve a worldwide HDTV production standard. Although ACTV I and other NTSC-compatible ATV systems would require transcoding to transmit material produced at 1125-lines and 60 Hz, it was believed that international program exchange would be facilitated by a single worldwide HDTV production standard.

Now that it appears that European broadcasters will not accept a 1125/60 standard, NBC, with the support of CapCities/ABC, Faroudja Laboratories, North American Phillips, Sarnoff, TCI, The Center for Advanced Television Studies (CATS), Thomson Consumer Electronics, Tribune Broadcasting, and Zenith, has submitted to the Society for Motion Picture and Television Engineers (SMPTE) documentation describing the basic characteristics of the video signals that would be associated with origination equipment operating in the 1050/59.94/2:1 and 1:1 and 525/59.94/1:1 high-definition production formats.

These parameter values were chosen specifically to provide an economic and evolutionary means to implement ATV in a NTSC environment. Use of such a production standard is in accordance with the Commission's preliminary conclusions regarding the importance of NTSC compatibility. This production proposal will meet the needs of American viewers and broadcasters. While a single, worldwide standard might be considered ideal for some purposes (toward this end, NBC currently has under development a 1250/59.94/1:1 production standard that could add to HDTV production compatibility throughout the world), failing this, a 1050/59.94 standard for the United States will be more economical to implement at both the network

and local level. It will eliminate conversion steps that diminish picture quality and add cost to the program delivery process.

VI. ALLOCATIONAL ISSUES

A. Who May Receive The Additional Spectrum?

NBC agrees that allotment of ATV augmentation spectrum can legally be limited to existing broadcasters under Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945). This is because the provision of spectrum specifically for signal augmentation, or improvement, will not result in an additional broadcast signal, but an enhancement to an existing signal. This is similar to the use of TV aural subcarriers for stereo, for example. Even though they could theoretically be put to a use independent of the main channel use, the use of these subcarriers to provide stereophonic sound has been properly regarded as part of the main channel signal. This analysis applies to both 3- and 6-MHz augmentation channels.

B. How Should The Spectrum Be Allocated?

Among the most problematic issues for the Commission in this proceeding will be how to allocate the additional VHF and UHF spectrum, even assuming the recipients may

legally be limited to existing broadcasters, particularly because (1) there appears not to be enough spectrum for every existing broadcaster to receive any at all and (2) some channels or bands may be more desirable than others. Indeed, while it may be foresighted to begin consideration of these issues now, it probably is premature to reach firm conclusions. Testing has not progressed to a point where, for example, the propagation characteristics of noncontiguous spectrum are known. Indeed, to take a most fundamental issue, it is not yet known whether certain proposed ATV systems will even work. It makes little sense to waste time and effort planning a spectrum utilization scheme in advance of this knowledge.

On the other hand, there are certain basic principles that apply to all spectrum allocation decisions and that the Commission will be constrained to honor in this instance. The due process principles of Ashbacker will apply among the class of eligible recipients, and existing licensees can be expected to struggle fiercely among themselves for the most desirable allotments. Even if the Commission were not to use a demand-based approach to these assignments, but to use an allotment/assignment approach, both the Administrative Procedure Act and case precedent require an opportunity for comment and a decisional process

before allotments are finalized. It is possible that appeals to court might be made by licensees dissatisfied with their allotments.

Indubitably, all of this will take a considerable amount of time; but it is unlikely that, without legislative changes, the Commission could resort to lottery assignment. Moreover, it is not at all clear that a lottery or other system of random selection would serve the public interest, at least in situations where certain augmentation spectrum may be more suited to providing ATV service in combination with particular main channel allocations. In such instances, technical considerations may assume greater importance.

We do not think that it is consistent with Section 307(b) of the Communications Act for licensees to be permitted to enter into privately-negotiated agreements with regard to their coverage areas, ATV or NTSC. These decisions should be made by the Commission not without regard to the concerns of private parties but on the basis of standards mandated by the Communications Act--a fundamental statutory responsibility. Enlargement of one service area at the expense of another, one likely outcome of privately-negotiated coverage agreements, is unacceptable from a public interest perspective.

C. Timetable for Implementation of ATV With Spectrum Allocations.

NBC is heartened by the Commission's commitment to ATV for terrestrial broadcasters and, its fundamental recognition that the Commission must be able to implement ATV service as soon as possible in order to ensure that all members of the public will have the opportunity to receive the benefits of ATV. As we have stated above, this can be accomplished by authorizing a 6-Mhz, NTSC-compatible ATV system.

However, it must be acknowledged that there are many, many tasks--technical and scientific, legal and administrative, and practical and operational--that must be undertaken before additional spectrum can be allocated and used for ATV. For example, allocation studies must be refined and propagation testing must take place to verify certain of the assumptions (particularly those regarding the UHF taboos) made in studies to date; even more basically, the fundamental parameters of which ATV standard will be chosen must be determined before final spectrum decisions realistically can be made. For example, if noncontiguous augmentation spectrum as a general matter, or certain particular combinations of channels, lead to

insolvable operational problems given today's technology, an entire class of solutions to the spectrum issue will have to be discarded.

Next, even if the Commission employs an omnibus assignment/allocation program, interested parties must be given an opportunity to participate in the assignment process. This could well involve lengthy administrative and legal proceedings. Canadian and Mexican concurrence would have to be obtained for U.S. border assignments. If one broadcaster disputes an allocation decision in a major metropolitan area in the eastern corridor, for example, this could delay finalization of assignments in a multi-party, multi-state daisy chain. It is unrealistic to assume that there will be no disputes over something as valuable as spectrum for ATV, particularly when all the evidence to date indicates that there may not be enough spectrum for each existing broadcaster to implement ATV in other than its present 6-MHz channel. These problems will be magnified if the spectrum solution chosen involves full or even partial repacking. Transition to new channel spacing will take a long time.

Depending upon the spectrum allocation received, it is possible that some broadcasters will have to relocate their antennas. Locating available real estate in major metropolitan areas is likely to be expensive and time

consuming. There may be local zoning ordinances requiring additional administrative proceedings in some areas. This will add expense and delay to the process. Under certain spectrum allocation scenarios, moreover, it will be necessary to co-locate transmitters. There are some areas in major markets that are already over-saturated with broadcast transmission facilities. Wholesale relocation of antenna farms is a lengthy, expensive and nearly impossible process requiring Commission, FAA, environmental and other local proceedings.

When an ATV system is selected, existing transmission and other equipment must be retrofitted or replaced. Manufacturers will be unlikely to produce such equipment until system parameters are fully determined, so production delays can be expected to impede the implementation process. New production and transcoding equipment must be manufactured before ATV programming will be available on any large scale.

Finally, affordable receivers must be brought to market, and it is unlikely that many will be manufactured for consumer purchase prior to selection of a single system.

No one truly doubts that as ATV technology develops and improves, additional spectrum will be required for its transmission. However, as the foregoing indicates,

delivering it to the public will take time, for many reasons. Some of the above-listed items can occur simultaneously, of course. Nevertheless, it appears that a significant amount of time will be required to bring to the public ATV services requiring additional bandwidth, whether for augmentation or simulcast.

While all of this is transpiring, it will be possible to deliver a 6-MHz, NTSC-compatible ATV signal of good quality to the public in a much shorter time. ACTV-I, and other systems like it, can bring the benefits of ATV to the public soon. ACTV-I also can work with any spectrum augmentation scheme to deliver ACTV-II, an even higher quality ATV signal, at such time in the future when the spectrum is available to be used. Consumers will not have to purchase new receivers; both ACTV-I and ACTV-II will be NTSC-compatible.

NBC urges the Commission to consider this sort of orderly, evolutionary transition. ACTV-I can be implemented soonest, with the least expense and dislocation for both the industry and the public, and is flexible in that it will continue to provide high quality, ATV service both in the short term and as technology advances over time.

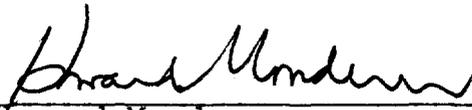
VII. CONCLUSION

NBC is heartened that the Commission has made several fundamental policy decisions to ensure that terrestrial broadcasters may participate in ATV development in this country. We are encouraged that the Commission has left the door open for a gradual evolution to high definition television in the United States that will permit viewers to make the transition to ATV as they are ready, without loss of existing NTSC service, but with the ability to participate in television advances as they occur. This evolutionary approach, in our view, will best serve the public interest. The transition can begin shortly, with enhanced resolution, widescreen images delivered via broadcasters' present 6 MHz channels but retaining NTSC compatibility. Additional spectrum can be allocated to permit broadcasters to present even higher resolution when receiver display technology makes this possible.

Such a scenario requires that the Commission ensure that sufficient broadcast and auxiliary spectrum remain available so that broadcasters are in a position to deliver the highest quality ATV signals possible as the technology advances. Moreover, the public also will benefit from

compatibility in the ATV delivery systems of all video media. NBC urges the Commission to continue to pursue these public interest goals and ensure that the public at large may enjoy the benefits of advanced television systems.

Respectfully submitted,



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November 30, 1988

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