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July 17, 1996

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Secretary
Federal Communications Commission
Washington, DC 20554

RE: MM Docket No. 87-268
Fifth Further Notice of Proposed Rule Making

Dear Sir:

This letter is to request that the attached statement be accepted for the record in the above docket even though the closing date for comments has passed.

These comments are in response to the Declaratory Ruling and Order in DA 95-1854 (Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations) which was released on July 10, 1996. These comments have been prepared immediately after this document became available.

Sincerely,

Roger E. Harders

Roger E. Harders

REH:pgb

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developed a digital HDTV format which they have entitled "Advanced Digital HDTV". Their system "substantially eliminates interference with NTSC co-channel stations, even with the reduced co-channel separation needed to accommodate broadcasters with a simulcast channel."[37]

This type of digital system will not cause or receive any adjacent or other "taboo" channel interference, eliminating the need for most of the Commission's mileage separation requirements. The single remaining constraint, co-channel separation, can be significantly reduced.[38] Furthermore, the more efficient digital encoding of the information results in lower transmitting power levels being required to achieve the same service areas. As a result, LPTV stations with digital modulation could still operate at their much-reduced power levels and still achieve significant signal coverage, while eliminating any potential for harmful interference.

This principle was demonstrated and acknowledged by the Commission in the development of a proposed Table of Allotments in the ATV proceeding. Island Broadcasting, a licensee of three LPTV stations in the New York City area, prepared an engineering study and submitted it as part of the record in the ATV proceeding. By taking into account the reduced interference separation

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[37] *Introducing Advanced Digital HDTV*, Prepared by the David Sarnoff Research Center, NBC, Philips Laboratories, Thomson Consumer Electronics and Compression Labs, Incorporated.

[38] See, E.G., Advanced Digital HDTV Field Tests at WRC-TV, Technical Description (September 30, 1992), in Exhibit __.

requirements and the co-location of transmission sites, Island was able to develop a proposed Table of Allotments for the New York market which would accommodate all 18 full power television station licensees and permittees located within 50 miles of the World Trade Center of Empire State Building without displacing any of the eight authorized LPTV or translator stations in the same area. This was accomplished in perhaps the most congested market for radio spectrum in the country.[39] This calculation did not take in to account all the interference resistance characteristics of the proposed digital ATV transmission mode.[40] *A fortiori*, this demonstrates that the Commission can implement the requested relief while avoiding unnecessary harm to pre-existing stations.

Use of the UHF taboo channels[41] also appears to be feasible, assuming that sufficient minimum co-channel separation is

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[39] The Commission even incorporated some of Island's proposals into the proposed Table of Allotments. *Second Further Notice*, supra, at Paragraph 42, n. 49.

[40] The Commission simply postulated mileage separation requirements and then determined how many stations could be accommodated. Not surprisingly, they "concluded" that there were just enough ATV allotments to accommodate full power interests, but no one else.

[41] The first, second, third, fourth, fifth, seventh eighth, fourteenth or fifteenth channel removed from the assigned UHF channel is known as a "taboo" channel. The Taboo channels were established by the FCC in 1952, to avoid certain interference effects due to television receiver design characteristics at that time. The taboos take into receiver characteristics such as adjacent channel response, sound and picture image ratios, intermediate frequency (IF) response, level of oscillator (LO) radiation, and channel intermodulation (IM) effects.

permitted.[42]

The Commission indicates in its own studies that "ATV to NTSC spacing is by far the dominant, if not the only significant, factor in determining the availability of spectrum for ATV." The availability of spectrum means that the ATV signal will not cause harmful interference to a pre-existing signal.

There is no question that there will be no interference to the digital signal by any pre-existing NTSC signals.[43] For example, the literature of the Advanced Television Consortium, a precursor to the Grand Alliance,[44] states that:

> By using the simple and effective approach of avoiding the high-power portions of an NTSC signal, Advanced Digital HDTV is able to minimize interference with existing NTSC service and avoid interference from the same NTSC signals. This substantially eliminates interference with NTSC co-channel stations, even with the reduced co-channel separation needed to accommodate broadcasters with a simulcast channel."

All of these calculations are made with one goal in mind: to provide a second simulcast channel to existing broadcasters. This goal was achieved by the consortium, who stated that "a coverage

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[42] Interim Report: Further Studies on the Availability of Spectrum for advanced Television -- 1989 OET Technical Memorandum, FCC/OET TM 89-01, (December 1989), at p. 11; Preliminary Analysis of VHF and UHF Spectrum Scenarios -- Part III, Advisory Committee, Planning Subcommittee Working Party 3, Doc. 0174 (June 1991), at p. 1. See also *Second Further Notice*, at ¶22 (we will need to eliminate or significantly alter the existing adjacent channel and UHF taboo channel spacing requirements. In particular, these studies 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 channels.)

[43] See

[44] The members of the Consortium were NBC, the Philips Electronics Laboratories, Thomson Consumer Electronics, the David Sarnoff Research Center, and Compression Labs, Inc.

range of 55.5 miles (the same as NTSC) with co-channel spacing of 115 miles would accommodate 97.5% of broadcasters with a simulcast channel." *Id.*

In the *Second Further Notice*, the Commission created a "draft" proposal for an ATV Table of Allotments. The goal of the allotment table was to provide a 6 Mhz ATV channel for each existing broadcast station which would maximize the coverage area of each ATV station, while at the same time "taking into account" interference to existing NTSC stations.

The Commission here reiterates the principle that mileage separation is the primary tool for preventing ATV-NTSC interference, as it is in the current NTSC interference rules.

> "Our earlier ATV allotment studies indicate that in order to accommodate all existing stations with an ATV channel it would be necessary to locate some co-channel ATV operations at distances to other NTSC and the ATV stations as close as 160 km (100 miles), with perhaps a very few stations at slightly closer spacings. These studies also indicated that ATV to NTSC cochannel spacing is by far the dominant consideration in achieving full accommodation."
>
> Understanding these considerations, the proponents of the five HDTV systems being evaluated by the Advisory Committee... have designed their systems to operate at the necessarily closer spacings... The system proponents also indicate that their systems can provide this range of service at the closer spacings while causing <u>no more interference to existing NTSC service than is caused by another NTSC station operating at the current minimum spacings for cochannel NTSC UHF stations.</u> These estimates generally are based on system-independent service area planning factors consistent with those recommended by the Advisory Committee.

Second Further Notice, at ¶¶22-24.[45]

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[45] The service area planning factors consistent with those recommended by the Advisory Committee in Appendix B of the *Second Further Notice* is appended hereto in Exhibit __.

In this case, the LPTV broadcasters are requesting digital transmission capability under the existing mileage separation, power limitations and interference protection rules currently in effect for Part 74 licensees.[46] These Part 74 interference standards are even more conservative than those applicable to full power stations.[47] Under Part 74, the full grade B contour of Part 73 licensees is protected and an LPTV station's transmitter output power levels are extremely limited. As just explicated in detail, the compliance with the existing Part 74 interference standards by digitized LPTV stations will ensure that no interference is caused to existing full-power television stations.

The existing interference standards for low power stations are based on geographic restrictions[48], which prohibit the location of LPTV transmission sites within the protected contour itself, or within a certain distance of the protected contour, of a co-channel or adjacent channel TV broadcast station, and actual calculations of field strength ratios between the full and low power stations.[49] The use of minimum spacing standards is the same approach currently used with full-power NTSC TV and FM radio

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[46] See 47 C.F.R. §74.701-784.

[47] See 47 C.F.R. §73.01 et seq.

[48] See 47 C.F.R. §74.705(b)(1)(2)(3)(4) and (5).

[49] A low power TV station application will not be accepted if the ratio in dB of its field strength to that of the TV broadcast station at the protected contour fails to meet a 45 dB desired-to-undesired ("D/U") ratio for co-channel operations without offset carrier frequency operation or 28 dB D/U ratio for offset carrier frequency operation

allotments. By complying with the existing geographic separation requirements, which the Commission admits is the dominant factor in interference considerations, adjusted to account for the measurement variations created by the use of digital transmission, LPTV operators will ensure that no interference is caused to existing full-power television stations.[50] A reduction in power will accomplish the same result.[51]

C. The Commission Has Addressed Similar Issues With Respect to the LPTV Service

The parallels between the Commission's authorization of LPTV operators to offer subscription television (STV), granted in the original Order establishing the LPTV service, and the requested relief herein are striking. The language used to describe STV could easily be the basis for the requested relief:

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[50] One of the members of the Grand Alliance prepared a calculator for allow for the rapid conversion of NTSC signal measurements to digital measurements. See Exhibit __.

[51]

> "If we were to relax the NTSC transmission standards, it might be best to require initially that a station transmitting non-NTSC signals maintain the equivalent interference protection to the other stations that would be afforded if it were transmitting NTSC signals. This might be accomplished by reduction of actual operating power by an appropriate amount below maximum power. Under this approach television applicants or licensees wishing to use non-NTSC transmission systems would be required to demonstrate that the proposed transmission systems provide this equivalent interference protection. After a particular non-NTSC system has been approved as affording other stations the proper interference protection, other applicants proposing the same system could simply make reference to that arrangement, thereby avoiding submission of a duplicate showing."

Notice of Inquiry, supra, at fn. 51.

> As we proposed, we are permitting STV via low power, at the licensee's discretion... (citation omitted) STV may be particularly suited to formatted programming on low power stations; indeed, in some markets it may be essential to the viability of the service. We believe that STV and low power share the potential to accelerate utilization of unused channels, provide viable financial support for specialized programming and small market stations and respond to the interests of the audience. We are not requiring a separate STV authorization although proposed subscription operation must be indicated on the application form, and existing low power licensees that are providing free service wishing to change to subscription service must so notify the Commission via an application for minor modification... we are not setting technical compatibility standards for low power STV equipment. We are also not requiring any minimum hours of free programming, because this requirement could prove overly burdensome to low power operators, and would not be consonant with the absence of minimum required hours of operation... We believe it is appropriate to acknowledge the possible hybrid nature of subscription service in our treatment of low power STV stations, particularly in light of the fact that low power is something of a hybrid service."

Low Power Television Service, 51 RR 2d at 520.

This hybrid nature described with respect to the STV aspect of LPTV continues to be an important part of the LPTV service to this day. That is because of the industry trend toward the construction and operation of wireless cable systems through the exclusive or partial use of LPTV stations to deliver programming to subscribers. Several of the Parties to this Petition For Declaratory Ruling are owners of such UHF wireless cable systems. Other LPTV licensees lease channels to MDS wireless cable operators to enhance the wireless system and add to the system's programming delivery capability. The ability of LPTV operators to use digital transmission will allow the growth of LPTV wireless cable systems and contribute to the development of both the LPTV and wireless

cable industries, a long-standing Commission goal.[52]

D. Relief Requested Does Not Involve Second Channel

It is important to note that the relief requested in this Petition For Declaratory Ruling does not involve a request for a second, so-called "conversion" channel, to be assigned to each LPTV station.[53] Petitioners urge that, in light of the dire circumstances which could befall the industry, should the ATV conversion plan be adopted as currently proposed, digital transmission on the licensed channel shall afford the LPTV industry sufficient flexibility to attempt to save the service from total obliteration.

It is not only the LPTV industry which has steadfastly questioned the fairness of the ATV conversion plan. Recently, the Chairman of the FCC Reed Hundt, questioned strongly whether the FCC's digital TV plan met FCC regulatory goals. Referring to the "digital genie in a bottle", he questioned the validity of requiring 100% of the American people to convert to a transmission format such as HDTV for which it is predicted that only 20% of the country would want to use in ten years. Most importantly, he

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[52] See footnotes 31 and 32, supra.

[53] By seeking digital transmission as requested herein, the LPTV industry does not, however, intend to surrender any rights to participate in the full FCC plan for the NTSC conversion to ATV. The LPTV industry has challenged the FCC's decision's with respect to the denial of LPTV participation in the ATV conversion program since the early stages of this proceeding, and continues to pursue actively before the FCC what it firmly believes is its right to share in the ATV conversion process. The requested relief herein is sought in addition to the full LPTV participation in the ATV conversion program.

described the term "second channel" as an historical artifact, which "confines our vision to the idea of a forced transition from analog to digital spectrum".

The relief requested by Petitioners clearly comports with this thinking. No conversion channel is requested. Digital transmission will not be forced; it will be the product of consumer demand in the competitive arena of the communications marketplace. The freedom to make this choice, a choice not available at the present time, will open new vistas for a growing industry which seeks to avail itself of new technology in order to permit it to continue to grow.

E. Flexible Use of the LPTV Frequencies

The Commission has emphasized its commitment to the flexible use of the MDS frequencies. In two recent decisions, the Commission stated that, while the primary use of the MDS frequencies is the provision of wireless cable, "the present regulations allow for the use of MDS frequencies for any kind of communications service."[54] (Emphasis supplied.) The Commission

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[54] *Memorandum and Order on Reconsideration, Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multichannel Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Docket No. 94-131 and PP Docket No. 93-253, released October 27, 1995 (hereinafter "*MDS Order*"), __ FCC Rcd __, (1995), at ¶17, citing *Memorandum and Order on Reconsideration, Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multichannel Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, released June 30, 1995, 10 FCC Rcd 9589, 9619 (1995) (hereinafter "*MDS Reconsideration Order*").

noted that previous MDS rulemakings had also noted that operators should be afforded the flexibility to provide other services.[55] The Commission stated that "We will allow alternative uses other than wireless cable video transmission if the applicant can satisfy MDS technical rules or adequately support waivers of those rules." *Id.*[56]

The same policy should be extended to the LPTV service as part of the relief requested herein, for several reasons. The most obvious reason is that the ATV proceeding has demonstrated that the digital TV signal is designed to be capable of delivering a stunning variety of data streams, far surpassing the capability of the analog NTSC signal. LPTV operators should be encouraged to take advantage of this new capability, to provide new services to the public, and to enhance the competitive nature of the communications marketplace, an important public interest consideration.

In addition, as noted above, if LPTV signals are going to be of continued use to wireless cable operators, then the LPTV service should have parallel regulatory flexibility with respect to frequency utilization. In extending STV authority to the LPTV service the Commission recognized the flexibility needed to increase the likelihood of the service's growth, and underscored

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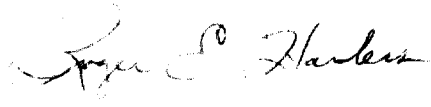
[55] *MDS Reconsideration Order*, at ¶19, *citing In the Matter of Revisions to Part 21 of the Commission's Rules*, 2 FCC Rcd 4251, 4255 (1987).

[56] Clearly, the digital transmission capability sought in the Wireless Cable Petition is just such a type of alternative use contemplated by the Commission as described here. *Id.*, at ¶20.

the hybrid nature of the service. Such flexibility would also be consistent with the secondary nature of the LPTV service, and need to afford operators the necessary tools to offer its audience the widest variety of service possible. If the service is to survive, the Commission must provide LPTV licensees with the greatest flexibility to serve its audience as the audience demands, while preserving the unique nature of the LPTV service, both in its ownership[57] and its valuable service to its viewers.

Wherefore, fo the foregoing reasons, Petitioners respectfully request that the Mass Media Bureau ácknowledge that the public interest will be served by the earliest possible use of digital modulation by Low Power Television Service ("LPTV") stations and for that reason, issue a declaratory ruling so stating as set out above.

Respectfully submitted,



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[57] A recent industry survey, conducted by contacting virtually all LPTV operators directly, indicates that approximately 10% of the LPTV stations in the United States are minority-owned. This percentage dwarfs the approximately 1% of full power television stations which are minority-owned, and is perhaps the highest percentage of minority ownership in any service licensed by the FCC.

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FCC MAIL ROOM

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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

COMMENTS OF ROGER E. HARDERS

I encourage the Federal Communications Commission to permit LPTV stations to use digital modulation in the Grand Alliance format, or in any format which does not cause out-of-channel interference.

Background

I operate a "wireless" cable system using 17 UHF channels in Nebraska and have construction permits to build a similar 16-channel system in Missouri. These systems are built in rural areas which compete directly with CATV systems and also serve homes beyond the wired area of CATV systems. Our system also competes directly with direct-to-home satellite services.

Need for More Program Transmission Capacity

Our system, and other similar UHF systems, have a limited number of channels (usually ten to twenty). Furthermore, we run the risk of losing some of these channels to primary DTV stations. The ability to expand channels capacity will undoubtedly make our systems more competitive with CATV and Satellite DTH services.

Digital compression of 5:1 could transform our small 17-channel system into a commercially viable 102-channel system.

Improved Signal Propagation

The use of digital modulation would also allow a better quality signal to be delivered to our more distant customers who currently experience interference from other stations. For nearby customers, digital signals can be delivered with a lower signal to noise ratio than NTSC and can be received with smaller, less obtrusive antennas. Digital transmission of local primary stations would also be provided on our UHF system, thus eliminating the need for large unattractive VHF antennas.

Recommendation

It is strongly recommended that LPTV stations be authorized to:

a. originate programs using digital modulation: and,

b. that digital modulation not be limited to the Grand Alliance Format, but rather, any format following the ITFS/MMDS declaratory ruling.

Respectfully submitted,

Roger E. Harders
Harders Broadcasting
530 North Broadway
Wahoo, NE 68066

(402) 443-3198
FAX (402) 443-5588

Before The
Federal Communications Commission
Washington D.C. 20554

In the Matter of	)	
	)	
Request For Declaratory Ruling	)	File No. MM DR-
On the Use of Digital Modulation	)	
by the Low Power Television	)	
Service Stations	)	

To: Chief, Mass Media Bureau

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PETITION FOR DECLARATORY RULING

The Parties listed in Appendix A hereto (collectively "the Petitioners"), hereby respectfully request pursuant to 1.2 of the Commission's Rules that the Mass Media Bureau acknowledge that the public interest will be served by the earliest possible use of digital modulation by Low Power Television Service ("LPTV") stations and for that reason, issue a declaratory ruling that:

pending further testing and the adoption of permanent rules to govern the use of digital modulation by LPTV licensees, the Commission will, upon application by the LPTV licensee, authorize the use of digital modulation and interpret Parts 73 and 74 in a manner consistent with such use where: (i) the applicant can with respect to every co-channel and adjacent channel licensee and applicant, or other affected TV licensees and applicants, entitled to interference protection under the Commission's rules either (a) secure a consent to digital operation or (b) demonstrate that operation of the facility will not cause harmful interference to such stations, as defined by the pertinent Commission rules, under either an NTSC[1] or TV[2] transmission standard; and the applicant

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[1] "NTSC" is an acronym for the National Television Systems Committee, an industry group convened first in 1940 to develop broadcast television technical standards and again in 1950 to develop standards for adding color to the earlier monochromatic standard. For a discussion of the role played by the National Television Systems Committee in the development of American television, see *ATV System Recommendation*, Federal Communications Commission Advisory Committee on Advanced Television Service, MM Docket 87-265, filed May 20, 199 , pages 3-1 to 3-3.

agrees to conform its operation to whatever permanent rules the Commission may adopt in the future with respect to conversion of the NTSC television standard to the ATV standard governing digital modulation.

The Petitioners represent a large grouping of licensees and systems operators in the LPTV industry. They have joined together to present this proposal united in the belief that this proposal will benefit the LPTV industry, whose very foundation is under assault as a result of the present channel allocation scheme proposed in the ongoing Advanced Television proceeding, as well as the public interest.

I. Regulatory History of LPTV Industry

The proceeding initiating the inquiry into the establishment of the Low Power Television Service was initiated in 1978.[3]

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[2] The Commission defines ATV as:

> "any system that results in improving television audio and video quality, whether the methods employed improve the existing NTSC transmission system or constitute an entirely new system." (Citation omitted.)"

Tentative Decision and Further Notice of Inquiry, 3 FCC Rcd 6521, n. 1 (1988) (*Second Inquiry*). The generic term "ATV" includes High Definition Television (HDTV) systems. HDTV systems aim to offer approximately twice the vertical and horizontal resolution of NTSC television receivers and to provide picture quality approaching that of 35 millimeter film and audio quality equal to that of compact discs. *Memorandum Opinion and Order/Third Report and Order/Third Further Notice of Proposed Rule Making*, 7 FCC Rcd 6924, 6925, note 1 (1992) (*Third Report/Third Notice*).

[3] *In the Matter of an Inquiry into the Future Role of Low-Power Television Broadcasting and Television Translators in the National Telecommunications System (LPTV Notice of Inquiry)*, 68 FCC 2d 1525 (1978).

Seeking an expanded role for television translators,[4] the Commission conducted a two-year inquiry. This resulted in the publication of a Staff Report which documented the nearly 100 comments and reply comments filed in response to the *LPTV Notice of Inquiry*, as well as detailed staff analysis of the potential LPTV service. Upon this basis the Commission issued a *Notice of Proposed Rule Making* which sought comments on a series of proposals for the low power television service. See *Notice of Proposed Rule Making (LPTV Notice)* 45 Fed.Reg. 69178 (October 17, 1980).

In the *LPTV Notice*, the Commission proposed rules to create the Low Power Television (LPTV) service. It also proposed an interim processing policy for the issuance of translator licenses with LPTV features, conditioned upon the outcome of the rule making. The Commission received over 7,000 applications during the pendency of the rule making. *Low Power Television Service*, 51 RR 2d at 482.

A *Further Notice of Proposed Rule Making (LPTV Further Notice)* was issued to address technical proposals with respect to mutual exclusivity of applications, 46 Fed.Reg. 42478 (August 21, 1981). The Commission received numerous comments and reply comments in response to both the *LPTV Notice* and the *LPTV Further Notice*. Based on the "voluminous record" and the "practical experience gleaned" from the interim processing policy, developed over four

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[4] Television translators are low-power stations that receive full-power television signals, amplify them and retransmit them on another frequency. Translators may not originate programming in excess of 30 seconds per hour. 47 C.F.R. § 74.701.

years, the Commission instituted rules for the new LPTV service. *Low Power Television Service*, 51 Rad. Reg. 2d 476, supra.

The LPTV service is a broadcast service for the transmission of a television signal over-the-air to homes with standard television sets, in precisely the same way a regular television station broadcasts its signal. The channels allocated for LPTV broadcasting are the same channels allocated for full-power, or regular, TV stations (Channels 2-13 VHF, 14-69 UHF). Like full-power television, the LPTV signal is broadcast from one, central transmitting antenna The significant distinction between full-power TV and LPTV is the strength of the signal an LPTV licensee is allowed to transmit. Specifically, the FCC limits an LPTV station's transmitter output power to 1,000 watts (or 1 kW) for UHF stations, and 10 watts for VHF stations. That limitation means that an LPTV station will generally emit a sufficiently strong signal for clear reception by the home viewer up to five to twenty miles from the transmitting antenna, depending on the viewer's receiving equipment.

This is compared to a full-power station, whose signal might be sufficient for clear over-the-air viewing for 50-70 miles from its transmission site. This lesser signal coverage means that an LPTV station will primarily serve the municipality to which it is licensed. Because of this local nexus, the LPTV industry also refers to its station owners and operators as "Community Television Broadcasters".

The Commission issued very few programming limitations in its

regulations for the LPTV service, allowing LPTV stations to show the same programming as full-power stations. The Commission determined that any affiliation agreements between low power television stations and networks would be governed by the same regulations as those between networks and full-power stations. LPTV stations would be barred from showing obscene programming, just like full-power stations. In sum, LPTV stations were to operate much like full power stations, only with less power.[5]

Since the institution of those rules, the low power industry has developed to the point that as of September 30, 1995, there are 1,761 LPTV licenses issued to operating stations in the United States. Comparatively, there are only 1,181 full-power commercial television licenses issued to operating commercial stations around the country.[6] The LPTV industry is the fastest growing segment of the television industry, adding over 900 new stations in the last five years.[7] Industry estimates indicate that these LPTV stations employ between 7,500 and 10,000 persons. Based on transactions to date, the average value of an operating LPTV station is $250,000,

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[5] The Commission initially decided that the LPTV service should be a relatively deregulated service, by exempting it from the Part 73 rules on studios in the community of license, public files, quarterly issues reports, children's programming, minimum hours of operation, and signal coverage. The qualitative differences between the service obligations of full and low power stations greatly diminished as the rules and policies applicable to the former were reduced or eliminated during the 1980's.

[6] *Broadcast Station Totals As Of October 31, 1995*, FCC Mimeo No. 60600, released November 9, 1995.

[7] The number of new full power stations grew by only approximately 80 stations during the same period of time.

giving the industry an estimated value in excess of $200 Million.[8]

II. LPTV's Secondary Status

The Commission established a specific definition of the secondary status of the LPTV service in *Low Power Television Service*, 51 Rad. Reg. 2d at 488-89. The Commission stated that:

> "Secondary status means (1) a low power station will not be authorized where there is a possibility of objectionable interference to an existing full service station, under the standards prescribed herein; (2) an authorized low power station that causes objectionable interference to an existing full service station is responsible for eliminating the interference, or the low power station must cease operation; (3) an existing low power station that would cause interference in connection with a proposed increase or modification of facilities of an existing full service station or in connection with a proposed new full service station is responsible for eliminating the interference, or the low power station must cease operation."

Consequently, LPTV's secondary status is based on the prohibition of electromagnetic interference to full power stations.[9] Low power stations are also secondary in the same way to certain stations in the Land Mobile services.[10]

III Overview of ATV Proceeding

In 1987, the Federal Communications Commission initiated a proceeding to consider the technical and public policy issues of

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[8] Industry estimates indicate that the LPTV industry has invested over $150 million in the construction and operation of its stations. See "Comments of the Community Broadcasters Association", submitted in MM Docket No. 87-268, dated November 20, 1995.

[9] See 47 C.F.R. § 74.703, which detail the Commission's regulations regarding LPTV interference to full-power stations.

[10] 47 C.F.R. § 74.703(e).

ATV.[11] Since then, the Commission has initiated rule makings and issued a series of decisions proposing policies and rules for the implementation of an advanced television service (ATV) in the United States.[12] [13] These policies and rules are designed to create

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[11] A Petition for Notice of Inquiry was filed with the FCC on February 21, 1987, by 58 broadcasting organizations and companies requesting that the Commission initiate a proceeding to explore the issues arising from the introduction of advanced television technologies and their possible impact on the television broadcast service. The Commission initiated a proceeding (MM Docket 87-268) in response to this Petition. *Notice of Inquiry*, 2 FCC Rcd 5125 (1987) (*First Inquiry*).

[12] *First Report and Order*, 5 FCC Rcd 5627 (1990) (*First Order*); *Notice of Proposed Rule Making*, 6 FCC Rcd 7024 (1991) (*Notice*); *Second Report and Order/Further Notice of Proposed Rule Making*, 7 FCC Rcd 3340 (1992) (*Second Report/Further Notice*); *Second Further Notice of Proposed Rule Making*, FCC 92-332 (released Aug 14, 1992) (*Second Further Notice*); *Third Report/Third Notice*, supra).

[13] On November 17, 1987, the FCC empaneled the Advisory Committee on Advanced Television Service. The objective given to the Advisory Committee in its charter was:

> The Committee will advise the Federal Communications Commission on the facts and circumstances regarding advanced television systems for the Commission consideration of technical and public policy issues. In the event that the Commission decides that adoption of some form of advanced broadcast television is in the public interest, the Committee would also recommend policies, standards and regulations that would facilitate the orderly and timely introduction of advanced television services in the United States.

Formation of Advisory Committee on Advanced Television Service and Announcement of First Meeting, 52 Fed. Reg. 38523 (1987). The Advisory Committee, or ACATS, is chaired by former FCC Chairman Richard Wiley. Its membership is "composed of industry leaders representing diverse viewpoints, including those of the television broadcast networks and stations, equipment manufacturers, cable systems, and the communications bar." *Tentative Decision and Further Notice of Inquiry*, 3 FCC Rcd at 6522. The FCC

a new technical standard for American television, which will result in the conversion of the current television system used throughout the United States from the NTSC standard to an ATV standard.

The most recent Commission ruling in this proceeding was the *Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry*, __ FCC Rcd __ MM Docket No. 87-268, released August 9, 1995 (*Fourth Further Notice*). In this Fourth Further Notice, the Commission requests comment on its proposal to retain the digital transmission format, but to change the focus of its development from High Definition Television (HDTV) to the "multicasting of Standard Definition Television ("SDTV"). This SDTV standard would permit the transmission of multiple streams of programming and data simultaneously. While the picture quality for the home viewer would not necessarily improve,[14] it would allow the television broadcast to deliver a variety of programming to the home viewer using just one television channel.[15]

IV. Affect of ATV Proceeding on LPTV Industry

The conversion to an ATV technical standard could potentially cause the complete elimination of the LPTV industry. The

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selected no representative from the LPTV industry to be a member of the Advisory Committee.

[14] The SDTV picture quality is approximately equivalent to the current NTSC television system. Fourth Further Notice, at n. 4.

[15] "For example, a broadcaster could transmit a news program consisting of four separate, simultaneous SDTV program streams for local news, national news, weather and sports; then transmit a HDTV commercial with embedded data about the product; then transmit a motion picture in an HDTV format simultaneously with unrelated data." Fourth Further Notice, at ¶4.

Commission proposes to use an interim simulcast system to convert to the new ATV standard. The Commission proposes to allot a certain number of ATV channels to each television market. The number of ATV channels will correspond to the number of channels needed for the existing class of "eligible entities" in that market to convert to ATV.

Existing broadcasters will be paired with an ATV channel. Eventually, the existing broadcasters will be licensed to operate on an extra channel, for a total of two channels, instead of merely operating on the one channel presently used by each television station. Broadcasters will use the second channel as a bridge channel while they construct the new ATV stations on the second channel and build an audience for ATV.[16]

Once the new ATV station is constructed, the licensee will shift operations to the new ATV station on the second channel and eventually relinquish the old NTSC channel. At that point, full power broadcasters must broadcast only in the new ATV service, the technical standards for which have just been determined at this late stage in the eight-year rulemaking proceeding.[17]

In the ATV proceeding the Commission has already defined a

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[16] The Commission currently designates 6 MHz of spectrum for each NTSC television channel. See 47 C.F.R. § 73.601. About 75% of the 6 MHz is actually used to transmit the video and aural signal. The outer edges of each channel are used as a buffer zone to protect the signals from mutual interference. See 47 C.F.R. § 73.699. During the conversion process, each full-power broadcast station converting to ATV will be authorized to use 12 MHz of spectrum, i.e., two full channels.

[17] See _____ _____, __ FCC Rcd ___ (1995).

class of entities eligible to convert to the new ATV channels. The Commission has restricted initial eligibility to "existing broadcasters."[18] These existing broadcasters will be able to file applications for their ATV conversion channels, without the possibility under the Commission's regulatory scheme of the filing of any mutually-exclusive applications.[19] LPTV broadcasters have been excluded specifically from the class of broadcasters eligible for initial conversion to ATV.[20]

In addition to the LPTV licensees' complete bar from the class of eligible broadcasters, the Commission has concluded that, in order to provide all full-power stations with an additional 6 MHz channel for conversion to ATV, it will be necessary for new ATV assignments to displace at least some LPTV and television translator service stations in major markets.[21] This conclusion,

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[18] Included in the class of broadcasters are (1) all full-service television broadcast stations licensees; (2) permittees authorized as of the date of adoption of the *Notice* (October 24, 1991); and (3) all parties with applications for a construction permit on file as of October 24, 1991, who are ultimately awarded full-service television broadcast station licenses. See *Notice*, 6 FCC Rcd at 7025; *Second Report/Further Notice*, 7 FCC Rcd at 3343; *Third Report/Third Notice*, 7 FCC Rcd at 6930; and Fourth Further Notice, at ¶¶25-32.

[19] *Third Report/Third Notice*, 7 FCC Rcd at 6937; Fourth Further Notice at ¶¶29-32.

[20] See *Notice*, 6 FCC Rcd at 7030; *Second Report/Further Notice*, 7 FCC Rcd at 3350-52; *Third Report/Third Notice*, 7 FCC Rcd at 6952.

[21] "As we stated in the Notice, and the record confirms, if ATV is to succeed it will be necessary for new ATV assignments to displace LPTV and translator stations to some degree in major markets." Second Report/Further

made before the Commission even knew what the ATV transmission standard would be, has been confirmed by the Draft Table of Allotments included in the Third Report, which identifies likely LPTV channel displacements. See Appendix D to *Second Further Notice*, supra.[22] [23]

The Commission has finally adopted an ATV transmission standard based on the various systems proposed by leading proponents of the HDTV standard, who in May, 1993, merged their interests into a single group known as "The Grand Alliance".[24] This merger guaranteed that digital, rather than analog,[25]

Notice, 7 FCC Rcd at 3350-51. See also Notice, 6 FCC Rcd at 7030; Third Report/Third Notice, 7 FCC Rcd at 6951.

[22] "As a technical matter, spectrum space is 'allocated' to a particular service. Allocated channels are then 'allotted' to specific geographic areas, and 'allotted' channels are then 'assigned' to a licensee. Third Report/Third Notice, 7 FCC Rcd at 6951, n. 106.

[23] The Commission states that the "first draft" ATV Allotment Table may differ significantly from the final table. However, none of the factors cited by the Commission reduces the likelihood of channel displacement for LPTV broadcasters. *Second Further Notice*, supra, at paragraph 52.

[24] The Grand Alliance members are AT&T, Zenith Electronics Corporation, General Instrument Corporation and the Massachusetts Institute of Technology, Philips Electronics North American Corporation, Thomson Consumer Electronics and the David Sarnoff Research Center.

[25] Analog is based on the use of electrical signals having an amplitude or frequency proportional to the video and audio information carried by it. The analog transmission system embodied in the NTSC technical standard has been the standard transmission mode for American television since 1941. A new technology, digital technology, has been developed which will allow the much more efficient transmission of a signal. Digital transmission translates the radio signal into binary code, the code used by computers to communicate. The binary bits