

Commodity	Parts per million	Commodity	Parts per million
Bananas	5	Cucurbits	0.5
Beans	1	Flaxseed	2.0
Beans, straw	1	Fruits, pome	0.2
Beets, sugar (roots)	5	Fruits, small	0.2
Beets, sugar (tops)	5	Fruits, stone	0.2
Cattle, mbyp	0.2	Grain crops (exc wheat)	0.5
Cattle, meat	0.2	Grasses, forage	2
Coffee beans	2	Hops	0.2
Corn, ear, dried (K+C)	10	Legumes, forage	2
Corn, fodder	5	Nuts	0.2
Corn, forage	5	Vegetables, fruiting	0.2
Corn, fresh (including sweet K+CWHR)	5	Vegetables, leafy	0.5
Corn, grain	10	Vegetables, root crop	0.2
Cottonseed	35	Vegetables, seed and pod	0.5
Cranberries	5	Wheat	2
Eggs	0.3		
Flaxseed	75		
Goats, mbyp	0.2		
Goats, meat	0.2		
Grapefruit	5		
Grapes	3		
Grasses, pasture	10		
Grasses, range	10		
Hogs, mbyp	0.2		
Hogs, meat	0.2		
Lemons	5		
Limes	5		
Macadamia nuts	1		
Milk	0.1		
Oranges	5		
Peaches	15		
Pears	3		
Peas, shelled	15		
Peas, unshelled	15		
Peas, vine, with pod	15		
Peas, vine, without pod	15		
Pecans	0.1		
Pineapples	3		
Plums	1		
Potatoes	10		
Poultry, (excluding kidney)	3		
Poultry, kidney	9		
Sheep, mbyp	0.2		
Sheep, meat	0.2		
Sorghum	1		
Sorghum, forage	5		
Soybeans	1		
Soybeans, straw	1		
Sugarcane	0.1		
Tangerines	5		
Walnuts	5		

(b) A time-limited tolerance, with an expiration date of May 1, 1999, is established for residues of dalapon (2,2-dichloropropionic acid) resulting from application of dalapon sodium-magnesium salt mixtures to irrigation ditch banks in the western United States in or on the following raw agricultural commodities. Where tolerances are established at higher levels from other uses of dalapon on the subject crops, the higher tolerance applies also to residues from the irrigation ditch bank use.

Commodity	Parts per million
Avocados	0.2
Citrus fruits	0.2
Cottonseed	0.2

§ 180.344 4,6-dinitro-o-cresol and its sodium salt; tolerance for residues.

A time-limited tolerance of 0.2 part per million, with an expiration date of May 1, 1999, is established for residues of the plant regulators 4,6-dinitro-o-cresol (DNOC) and its sodium salt in or on the raw agricultural commodity apples from application to apple trees at the blossom stage as a fruit-thinning agent.

§ 180.363 [Removed]

1. By removing § 180.363 *Fluchloralin; tolerances for residues.*

PART 185—[AMENDED]

2. In part 185:

a. The authority citation for part 185 continues to read as follows:

Authority: 21 U.S.C. 346a and 348.

b. By revising § 185.1500 *Dalapon; tolerances for residues* to read as follows.

§ 185.1500 Dalapon; tolerances for residues.

A time-limited tolerance of 0.2 part per million, with an expiration date of May 1, 1999, is established for the residues of the herbicide dalapon (2,2-dichloropropionic acid) in potable water when present therein as a result of the application of dalapon sodium-magnesium salt mixtures to irrigation ditch banks in the western United States.

§ 185.2900 [Removed]

c. By removing § 185.2900 *Ethyl formate; tolerances for residues.*

PART 186—[AMENDED]

3. In part 186:

a. The authority citation for part 186 continues to read as follows:

Authority: 21 U.S.C. 348.

b. By revising § 186.1500 *Dalapon; tolerances for residues* to read as follows:

§ 186.1500 Dalapon; tolerances for residues.

A time-limited tolerance of 20 parts per million, with an expiration date of May 1, 1999, is established for residues of the herbicide dalapon (2,2-dichloropropionic acid) in dehydrated citrus pulp for cattle feed, when present therein as a result of the application of dalapon sodium salt or dalapon sodium-magnesium salt mixtures during the growing of citrus fruit.

[FR Doc. 96-13442 Filed 5-28-96; 8:45 am]

BILLING CODE 6560-50-F

§ 180.161 [Removed]

f. By removing § 180.161 *Manganous dimethyldithio-carbamate; tolerances for residues.*

g. By revising § 180.230 *Diphenamid; tolerances for residues* to read as follows.

§ 180.230 Diphenamid; tolerances for residues.

A time-limited tolerance with an expiration date of May 1, 1999, is established for the residues of the herbicide dipenamid (*N,N*-dimethyl-2,2-diphenylacetamide) including its desmethyl metabolite *N*-methyl-2,2-diphenylacetamide in or on the raw agricultural commodities as follows:

- 2 parts per million in or on peanut hay and forage.
- 1 parts per million in or on potatoes and strawberries.
- 0.5 parts per million in or on peanut hulls and soybean hay and forage.
- 0.2 parts per million in or on cotton forage.
- 0.1 parts per million (negligible residue) in or on apples, cottonseed, fruiting vegetables, okra, peaches, peanuts, soybeans, and sweet potatoes.
- 0.05 parts per million in or on (negligible residue) in meat, fat, and meat byproducts of cattle, goats, hogs, horses, and sheep.
- 0.01 parts per million (negligible residue) in milk.
- 1.0 parts per million in or on raspberries.

§ 180.244 [Removed]

h. By removing § 180.244 *Basic zinc sulfate; tolerances for residues.*

§ 180.250 [Removed]

i. By removing § 180.250 *Metobromuron; tolerances for residues.*

§ 180.325 [Removed]

j. By removing § 180.325 *2-(m-Chlorophenoxy) propionic acid; tolerances for residues.*

k. By revising § 180.344 *4,6-Dinitro-o-cresol and its sodium salt; tolerance for residues* to read as follows.

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Chapter I

[MM Docket No. 87-268; FCC: 96-207]

Broadcast Services; Television Stations

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: The Commission proposes to require digital broadcast television licensees to use the digital television ("DTV") system described by the ATSC ("Advanced Television Systems Committee") DTV Standard and recommended to the Commission by the Advisory Committee on Advanced Television Service. The Commission also proposes to adopt one or more method of assuring that at some future time the Standard does not inhibit innovation and competition. The intended effect is to ensure that all affected parties have sufficient confidence and certainty in order to promote the smooth introduction of a free and universally available digital broadcast television service while encouraging technological innovation and competition.

DATES: Comments are due by July 11, 1996, and reply comments are due by August 12, 1996.

ADDRESSES: Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554

FOR FURTHER INFORMATION CONTACT: Roger Holberg, Mass Media Bureau, Policy and Rules Division (202) 418-2134 or Saul Shapiro, Mass Media Bureau, (202) 418-2600.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's *Fifth Further Notice of Proposed Rule Making* in MM Docket No. 87-268, FCC 96-207, adopted May 9, 1996, and released May 20, 1996. The complete text of this *FNPRM* is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, N.W., Washington, D.C., and also may be purchased from the Commission's copy contractor, International Transcription Service, (202) 857-3800, 2100 M Street, N.W., Suite 140, Washington, DC 20037.

Synopsis of Further Notice of Proposed Rule Making

I. Introduction

1. In this proceeding we consider adoption of a digital television ("DTV") broadcast standard. This action has been recommended to the Commission by its

Advisory Committee on Advanced Television Service ("Advisory Committee" or "ACATS").¹ We have the following objectives with regard to the authorization and implementation of a DTV standard.² We seek to ensure that all affected parties have sufficient confidence and certainty in order to promote the smooth introduction of a free and universally available digital broadcast television service. We seek to increase the availability of new products and services to consumers through the introduction of digital broadcasting. We seek to ensure that our rules encourage technological innovation and competition. And we seek to minimize regulation and assure that any regulations we do adopt remain in effect no longer than necessary.

II. Background

2. On February 13, 1987, 58 broadcast organizations ("Petitioners") filed a joint "Petition for Notice of Inquiry" asking the Commission to initiate a proceeding to explore issues arising from the advent of new and advanced television ("ATV") technologies and their possible impact, in either broadcast or non-broadcast uses, on existing television broadcast service. On July 16, 1987, as a result of the comments it received in response to the petition, the Commission inaugurated the instant proceeding, "to consider the technical and public policy issues surrounding the use of advanced

¹ ACATS Report at 19. The Advisory Committee was formed by the Commission on October 16, 1987, pursuant to the Federal Advisory Committee Act (86 Stat. 770, as amended, 5 U.S.C. App. 2 § 1 *et seq.* (1982 ed. and Supp. V)). It was established "to assist the Commission in considering the issues surrounding the introduction of advanced television service in the United States." (*Notice*, 52 Fed. Reg. 38523 (October 16, 1987).) The Advisory Committee consisted of a twenty-five member parent committee and three subcommittees—Planning, Systems and Implementation. Its membership on the date that the ATSC DTV Standard was recommended to the Commission is at Appendix B.

² In issuing this *Notice*, we are requesting comment, *inter alia*, on whether to accept the conclusions of the Final Report and Recommendation of the Advisory Committee, adopted November 28, 1995 ("ACATS Report"), which recommends the Advanced Television Systems Committee Standard A/53 (1995) *ATSC Digital Television Standard* ("ATSC DTV Standard") as the standard for DTV broadcasting in the United States. This standard is based on the Advisory Committee design specifications and the Digital HDTV Grand Alliance ("Grand Alliance") System. The ACATS Report is hereby incorporated into the record of this proceeding. Copies of the ACATS Report are available through the Commission's copy contractor, International Transcription Services. Additionally, the ACATS Report, ACATS Final Technical Report and ATSC DTV Standard are available on the Internet at the ATSC site (<http://www.atsc.org>).

television technologies by television broadcast licensees."³

3. The Commission empaneled the Advisory Committee on Advanced Television Service (ACATS) shortly after having opened the inquiry phase of this proceeding. Among other activities, ACATS designed the detailed testing plans for the system and conducted substantial related studies.

4. On May 24, 1993 the three groups that had developed the four final DTV systems examined by ACATS agreed to produce a single, best-of-the-best system to propose as the standard. The three ventures that joined to become the "Grand Alliance" consisted of AT&T and Zenith Electronics Corporation; General Instrument Corporation and Massachusetts Institute of Technology; and Philips Electronics North America Corporation, Thomson Consumer Electronics, and the David Sarnoff Research Center. The standard recommended by ACATS and now before us is based on the system developed, built, and proposed by the Digital HDTV Grand Alliance proposal to ACATS. The system described by the ATSC⁴ DTV Standard having been successfully designed, built and tested, in November 1995, the Advisory Committee voted to recommend the Commission's adoption of the ATSC DTV Standard.

5. We believe that the ATSC DTV Standard embodies the world's best digital television technology and promises to permit striking improvements to today's television pictures and sound; to permit the provision of additional services and programs; to permit integration of future substantial improvements while maintaining compatibility with initial receivers; and to permit interoperability with computers and other digital equipment associated with the national information initiative.

³ *Notice of Inquiry* in MM Docket No. 87-268, ("First Inquiry"), 2 FCC Rcd 5125 (1987).

⁴ "ATSC" is the Advanced Television Systems Committee. ATSC currently has 54 members including television networks, motion picture and television program producers, trade associations, television and other electronic equipment manufacturers and segments of the academic community. It was formed by the member organizations of the Joint Committee on InterSociety Coordination ("JCIC") for the purpose of exploring the need for and, where appropriate, to coordinate development of the documentation of ATV systems. The JCIC is composed of the Electronic Industries Association, the Institute of Electrical and Electronics Engineers, the National Association of Broadcasters, the National Cable Television Association, and the Society of Motion Picture and Television Engineers. The membership of the ATSC when it adopted the ATSC DTV Standard is at Appendix C.

III. The ATSC DTV Standard

6. The five components described in the annexes to the ATSC DTV Standard are video coding, audio coding, transport, RF/transmission and receiver. These five basic components, plus a video format selection function, are sometimes referred to as comprising "layers" of the system. Compliance with the ATSC DTV Standard requires some of its provisions be followed, but many of these provisions include numerous acceptable options that the system's

users may select. In addition to the required provisions, some additional provisions of the ATSC DTV Standard are recommended but not required, and others are optional. Finally, although it describes the coding and transmission of television video and audio, it also allows transmission of a variety of other services as "ancillary data." This structure makes the system described by the ATSC DTV Standard extremely flexible and gives it room to incorporate a wide range of future improvements.

7. *Format selection:* The ATSC DTV Standard supports a variety of scanning formats. Table I shows the number of scanning lines and horizontal picture elements (or pixels) per line, which affect resolution. The 720-line and 1080-line formats below represent high resolution video. The lower-resolution 480-line formats accommodate existing NTSC⁵ programming and equipment as well as material designed for viewing on VGA computer monitors.

TABLE I

Vertical lines	Horizontal pixels	Aspect ratio	Picture rate		
1080	1920	16:9	60I	30P	24P
720	1280	16:9		60P	30P 24P
480	704	16:9 4:3	60I	60P	30P 24P
480	640	4:3	60I	60P	30P 24P

8. Table I also indicates that the high-resolution formats both use a picture aspect ratio of 16 units horizontally by 9 units vertically (that is, a picture 16 inches wide would be 9 inches tall or one 32 inches wide would be 18 inches tall). The choices of 1280 pixels per line for the 720-line format and 1920 pixels per line for the 1080-line format result in square pixels (that is, pixels which are displayed at equal distances, both horizontally and vertically) for both formats, based on the 16:9 aspect ratio. Material in the 480-line by 704-pixel format could use either a 16:9 or a 4:3 aspect ratio.

9. The picture rates specified in Table I identify the number of images that are sent each second, with an "I" designating interlaced scanning and a "P" designating progressive scanning. Progressive scanning lines are presented in succession from the top of the picture to the bottom, with a complete image sent in each frame as is commonly found in computer displays today. For interlaced scanning, which also is used in NTSC television, odd and even numbered lines of the picture are sent consecutively, as two separate fields. These two fields are superimposed to create one frame, or complete picture, at the receiver. The picture rates can be 24, 30 or 60 fields per second.

10. *Video coding:* For compression of video signals, the ATSC DTV Standard requires conformance with the main profile syntax of the MPEG-2 video standard.⁶ Employing this standard, the amount of data needed to represent

television pictures is reduced using a variety of tools, including a motion compensated discrete cosine transform (DCT) algorithm and bidirectional-frame (B-frame) prediction. Each of these tools serves to improve compression efficiency by reducing the total amount of digital information that needs to be transmitted.

11. *Audio coding:* For compression of audio signals, the ATSC DTV Standard requires conformance with ATSC Doc. A/52, the Digital Audio Compression (AC-3) Standard. The AC-3 perceptual coding system, which was developed by Dolby Labs, can encode a complete main audio service which includes left, center, right, left surround, right surround, and low frequency enhancement channels into a bit stream at a rate of 384 kilobits per second (kbps). Audio service can also include fewer channels (down to single channel, monophonic service) using a lower bit rate.

12. *Transport:* The service multiplex and transport layer of the ATSC DTV Standard is a compatible subset of the MPEG-2 systems standard that describes a means of delivering a digital data stream in fixed-length "packets" of information. Each packet contains only one type of data: video, audio or ancillary. There is no fixed mix of packet types, which further helps provide flexibility. Channel capacity can be dynamically allocated in the transport layer, under the direct control of the broadcaster. Within the transport layer, the packets of video, audio, closed

captioning and any other data associated with a single digital television program are combined using a mechanism to ensure that the sound, pictures and closed captioning information can be synchronized at the receiver. Data describing multiple television programs, or unrelated data for other purposes, are also combined in the transport layer.

13. *RF/Transmission:* The transmission layer of the ATSC DTV Standard uses a vestigial sideband (VSB) technique with a small pilot carrier added at the suppressed carrier frequency. The relationship of the pilot carrier frequency to interference to lower adjacent channel NTSC service is discussed in the "interference" section below.

14. Terrestrial broadcasts of DTV will be exposed to situations that include strong interfering signals, electromagnetic noise from numerous sources, and configurations of buildings or terrain features that cause multipath interference. For successful reception under these difficult conditions, an 8-level VSB signal is specified and extensive error correction is provided. Taking into account the transport requirements and error correction, the 8-VSB signal carries an effective useful payload of approximately 19.28 megabits per second (Mbps). For more benign environments, like that provided in a cable system, the ATSC DTV

⁵ NTSC refers to the current analog television system. It is named for the National Television System Committee, an industry group that developed the monochrome (black and white)

television standard in 1940-41 and the color television standard in 1950-53.

⁶ MPEG-2 is a video compression and transport standard created by the Moving Picture Experts Group of the International Organization for Standardization (ISO).

Standard includes a 16-level VSB high data rate mode that provides double the capacity of the 8-level VSB terrestrial broadcast mode.

15. *Receiver*: The ATSC DTV Standard does not specify requirements for a compliant receiver. In essence, the DTV receiver designs are to be based on the specifications of the signal contained in the other portions of the Standard. The receiver reverses the functions of the RF/transmission and transport layers, and, after decompression, generates video and audio suitable for its display.

16. *Flexibility*. The ATSC DTV Standard provides a method of accommodating a broad range of uses. The packetized transport structure is a critical component in achieving this broad level of flexibility. Scrambled packets can be sent, which allows conditional access subscription or pay-view services to be delivered.

17. *Extensibility*. In the future, new services may be uniquely identified through the use of new packet identifiers that would be ignored by previously deployed digital receivers. Such data could be used to augment DTV programs or could permit new services that have not yet been envisioned. Either extension of the DTV service would require new DTV receivers or new decoder devices to be developed and used in order to obtain the benefits of the new service or functionality, but would not disrupt provision of DTV service to consumers using existing sets. The marketplace would determine the extent to which sets with new functionalities are available.

IV. Adopting the ATSC DTV Standard

18. There is near universal agreement that transmission standards, either de facto or de jure, confer many benefits.⁷ We believe that the proposals discussed herein would enable consumers, licensees and equipment manufacturers to realize the benefits of standards without unduly restricting innovation and competition.

19. *Previous Statements*. Previously, we have asked whether mandatory transmission standards serve the public interest. In our initial 1987 *Notice of Inquiry* in this proceeding, we noted that NTSC standards were established during the television industry's infancy when universal compatibility standards were arguably necessary in order to develop a national television

broadcasting system in a timely manner.⁸ However, we also stated that the continuation of mandatory standards may no longer be necessary and may even be counterproductive.⁹

20. In the 1988 *Second Inquiry*, we continued our examination of whether the NTSC standard should be relaxed or repealed, how standards should be established for advanced television, and whether it would be desirable to require compatibility between advanced television broadcast transmissions and other ATV distribution media.¹⁰ In this regard, we asserted that establishing a standard has certain advantages such as pointing the various interested parties in the same direction, reducing the risk to both audiences and broadcasters of investments in systems that might become obsolete if a different system is introduced in the market, and overcoming reluctance to invest in new equipment.¹¹ We also stated that, "detailed, inflexible standards that have the force of law may reduce consumer choice and prevent the timely introduction of new technology."¹²

21. Subsequent to our statements concerning standards in the 1987 and 1988 decisions, as described above, we concluded in 1990 that "[c]onsistent with our goal of ensuring excellence in ATV service, we intend to select a simulcast high definition television system."¹³ We also stated that, "parties filing comments in response to the Further Notice generally assume that the Commission will ultimately authorize a system using new technology that will provide HDTV service." (Footnote omitted.)¹⁴ The Commission's November 14, 1990 *Memorandum of Understanding* with the Advisory Committee, the Advanced Television Test Center, Inc., Cable Television Laboratories, Inc., and the Canadian Communications Research Centre, said, "[t]he FCC's stated intention is to select an ATV standard by the second quarter of 1993."

22. *Recent Developments*. Two recent developments are relevant to whether and, if so, what form of a required standard is desirable. First, the presence of multiple competing systems strengthened the argument for selecting a standard. Today, only one system has been recommended by our Advisory

Committee and no other competing technology appears to demonstrate superiority over the ATSC DTV Standard.¹⁵ Thus, concerns with the possibility of multiple competing systems may be less relevant today.

23. Second, prior to the development of the ATSC DTV Standard, it was widely believed that the service offered by a licensee would change from one NTSC program stream to one HDTV program stream. Today's digital technologies and improved compression techniques create the opportunity for delivering one, and under special circumstances perhaps two, HDTV program streams, or multiple program streams at lower resolution. Furthermore, digital technologies give each licensee the technical capacity to explore new business opportunities and provide new services. If the ATSC DTV Standard is as dynamic as believed, a required standard will not thwart technical advance.

24. *Analysis of Required Standards*. The traditional rationale for requiring a standard arises when two conditions are met.¹⁶ First, that there is a substantial public benefit from a standard. Second, private industry either will not, or cannot, produce a standard because the private costs of getting involved in standard setting outweigh the private benefits, or a number of different standards have been developed and private industry cannot agree which should become the standard. The second condition may not be applicable in view of the strong industry coalescence around the ATSC DTV Standard. However, we believe that the first condition applies to DTV. Television today is a ubiquitous service that is available to almost every American household and is relied on by a majority of Americans as their primary news and information source.¹⁷

25. A required standard may provide additional certainty to consumers, licensees, and equipment manufacturers, especially during the launch of this new technology. A required standard may protect consumers against losses by assuring them that their investments in DTV equipment will not be made obsolete by a different technology. In addition, requiring use of a single standard

⁸ *First Inquiry*, *supra* at 5135.

⁹ *Ild*.

¹⁰ *Tentative Decision and Further Notice of Inquiry* in MM Docket No. 87-268 ("Second Inquiry"), 3 FCC Rcd 6520, 6534 (1988).

¹¹ *Id.* at 6534-35.

¹² *Id.* at 6535.

¹³ *First Report and Order*, 5 FCC Rcd 5626, 5628 (1990).

¹⁴ *Id.*

¹⁵ ACATS Report at 17.

¹⁶ Stanley M. Besen and Garth Saloner, "The Economics of Telecommunications Standards," in *Changing the Rules: Technological Change, International Competition, and Regulation in Communications*, Robert W. Crandall and Kenneth Flamm, editors (The Brookings Institute, 1989).

¹⁷ Seventy-two percent of Americans rely on television as their primary source of news. NTVA, Roper-Starch, NAB, *America's Watching—Public Attitudes Toward Television-1995*, at 17.

⁷ For a discussion of the benefits of standards, see Stanley M. Besen and Leland L. Johnson, *Compatibility Standards, Competition, and Innovation in the Broadcast Industry* (Santa Monica, CA: The RAND Corporation, 1986) at 7-9.

guarantees compatibility. This assures consumers that the DTV equipment they purchase to view one television station can be used to view every other television station. The compatibility guaranteed by a single required standard may also reduce consumer costs by eliminating the need to purchase duplicative equipment or special devices to convert from one standard to another. Finally, a required standard may lead to a more rapid development and acceptance of DTV equipment. Absent a required standard, some consumers and licensees may be reluctant to purchase DTV equipment if they believe that different DTV technologies may become available in the near future. A required standard may reduce such "wait and see" behavior.

26. Although there are benefits to required standards, there also may be certain costs. One may be deterrence of technical innovations.¹⁸ Over time, we expect that normal technological progress will lead to improvements. If subsequent technological improvements cannot be readily incorporated into the ATSC DTV Standard, the Standard could lock the broadcast market into less than optimal technology. Required standards also may reduce some forms of competition while enhancing others. With required standards, equipment manufacturers cannot compete by offering differentiated products using different technologies. As such, a primary cost of required standards is loss of variety.¹⁹ On the other hand, required standards, which are licensed to everyone on a non-discriminatory basis, may intensify the more conventional forms of competition, such as price, service, and product features.²⁰

27. As we weigh the benefits and costs of required standards, we note that for MMDS and new services like PCS, DBS, and DARS, we have decided to allow the marketplace to determine transmission standards. We recognize that these decisions were made in a context different from that of terrestrial broadcast television, an established industry upon which the American

people rely for both information and entertainment. Additionally, unlike these other services, free over-the-air broadcast television is a mass market media serving nearly all of the American public nationwide rather than a subscription service in which the service provider may supply the reception equipment.²¹ In this context, the goals of certainty and reliability take on a different significance than may have been present with respect to other communications services and strengthens the case for our adoption of a DTV standard.

28. *Proposal.* We propose to adopt the ATSC DTV Standard. We tentatively conclude that requiring the use of the ATSC DTV Standard is appropriate because it would provide a measure of certainty and confidence to manufacturers, broadcasters and consumers, thus helping assure a smooth implementation of digital broadcast television and the preservation of a free and universally available broadcast television service.

29. The digital television system that has been recommended by the Advisory Committee appears to be dynamic, flexible and high quality. It provides a variety of picture formats that will allow broadcasters to select the one most appropriate for their program material, ranging from very high resolution providing the best possible picture quality to multiple programs of lower resolution, which could result in increased choices for viewers. Even at the lower resolutions, the recommended system represents a clear improvement over the current NTSC standard.

30. Use of the ATSC DTV Standard also represents a rare opportunity to increase significantly the efficient use of broadcast spectrum. The ATSC DTV Standard will allow channels unusable in the NTSC analog environment to be assigned for digital broadcasting between existing NTSC channels. It was designed to be flexible enough to incorporate future improvements, including those resulting in ever higher resolution, that the Advisory Committee believes will be made possible by future advances in compression and display technology.

31. We believe that the "headroom" for innovation incorporated in the ATSC DTV Standard, along with the desirability of providing certainty and confidence, argue in favor of a required standard. In addition, the flexibility of

the ATSC DTV Standard significantly reduces some of the potential detriments associated with a required standard as the new technology is being launched. The packetized structure of the data transport, as described above, ensures a flexibility that will permit the DTV licensee to provide, for instance, several standard definition programs, or one high-definition program, or some standard definition programming together with data transfer or electronic publishing on the remaining bit streams, and to switch instantaneously between such applications. Other applications are limited primarily by the imagination of the DTV licensee. This means that a wide array of innovations can be introduced without Commission action.

32. We seek comment on the tentative conclusion that we will require use of the ATSC DTV Standard. Assuming that we do require the use of the ATSC DTV Standard by digital television licensees, we request comment on whether we should place the Standard into our rules in its entirety or whether we should incorporate it by reference.²²

33. While we propose to require digital television licensees to use the ATSC DTV Standard, we recognize that the benefits of a required standard may become attenuated over time, as the costs of a requirement may increase. At some point, when the new digital broadcasting technology has become firmly established, requirements designed to promote certainty and to foster a smooth implementation of digital television may no longer be necessary. Meanwhile, over time, the likelihood increases that there will be technological innovation that even the flexible ATSC DTV Standard may not be able to accommodate. In addition, given the pace of technological change, it is likely that there will be unforeseeable innovations that are incompatible with the ATSC DTV Standard. As long as there is a requirement in our rules that DTV licensees use only the ATSC DTV Standard, such innovations could not be introduced to consumers without a potentially costly and time-consuming Commission proceeding. That, in turn, could reduce the incentive to conduct the research and development that leads to innovation.

34. In addition to ensuring that the Commission's rules promote the rapid

¹⁸ For an overview of the characteristics of the television broadcast market that contribute to the inertia of established standards see Bruce M. Owen and Steven S. Wildman, *Video Economics*, (Harvard University Press, 1992): 260-313. For a more general discussion of the characteristics of one-way and two-way communications systems that affect the adoption of technology see Michael L. Katz and Carl Shapiro, "Systems Competition and Network Effects," *Journal of Economic Perspectives* (Spring 1994): 93-115.

¹⁹ Katz and Shapiro, *supra* at 110.

²⁰ Stanley M. Besen and Joseph Farrell, "Choosing How to Compete: Strategies and Tactics in Standardization," *Journal of Economic Perspectives* (Spring 1994): 117-131.

²¹ *America's Watching—Public Attitudes Toward Television—1995*, *supra*, at p. 3. Even nearly 60% of viewing in cable television households is of the programming of broadcast television stations. NCTA, *Cable Television Developments, Fall 1995*, at 5.

²² See Letter dated April 2, 1996, submitted for the record by Joseph P. Markoski of the law firm of Squire, Sanders & Dempsey on behalf of the EIA and the EIA Advanced Television Committee. The letter cites as precedent for incorporating the standard into our Rules by reference Sections 73.682(a)(14), 73.682(a)(21)(iv) and 15.31(a)(6) of the Commission's Rules. A similar, but alternative, proposal would be to publish the Standard not in our Rules but, rather, as an OET technical bulletin.

introduction of digital television broadcasting, we seek in this proceeding to adopt rules that encourage further innovation by those who have devised the ATSC DTV Standard as well as new entrants. We also seek to minimize our regulations and to have the regulations that we do adopt remain in effect no longer than necessary. We are mindful, finally, of the spirit of the recently adopted Telecommunications Act of 1996, which seeks, "[t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."²³

35. There are several options that arguably could accomplish these goals and we propose to adopt one, or more than one in combination.²⁴ The Commission could proceed under its current processes for regulatory evolution and change, which include consideration, as appropriate, of requests from parties to amend its rules and reviews initiated by the agency.

36. Alternatively, the Commission could commit itself to conduct a proceeding to review the Standard at some future time. If the Commission chooses this option, should a review be structured to place the burden of persuasion on those seeking to continue requiring a standard or on those seeking to eliminate the requirement? When should such a review take place? Should we select a specific date or should we link the review to an objective event?

37. Finally, the Commission could establish a period of time after which the ATSC DTV Standard no longer would be required or exclusive. At the conclusion of some meaningful period of time, digital licensees would be free to use any technology that does not interfere with users of the ATSC DTV Standard. If such a sunset provision were to be adopted, how should we determine when the mandatory aspects of our rules would expire?

38. Commenters are encouraged to comment on the foregoing and to propose other options. In so doing, they should provide a thorough explanation of the benefits and detriments of their options and an explanation of how their options serve the goals that we have outlined above.

39. Finally, we seek comment on alternative approaches to requiring a

standard, including those the Commission has previously identified: (1) authorizing use of a standard and prohibiting interference to it, but not requiring the use of that standard;²⁵ and (2) adopting a standard for allocation and assignment purposes only.²⁶ We also seek comment on requiring use of some layers of the ATSC DTV Standard (described more fully above) but making others optional. For example, would it be desirable to require digital licensees to use the RF/transmission layer of the ATSC DTV Standard, while leaving them free to choose coding and compression technologies different from those described in the ATSC DTV Standard?

40. *Acceptability of the ATSC DTV Standard.* Although the ATSC DTV Standard has many supporters, it also has its critics. Some in the computer industry argue that the presence of interlaced scanning formats, the 60 Hz transmission rate, aspect ratios, colorimetry and non-square pixel spacing in the ATSC DTV Standard all merit further consideration.²⁷ Proponents of the ATSC DTV Standard respond that the Standard was developed for terrestrial broadcasting but has incorporated significant elements to enhance compatibility with computers.²⁸ With respect to the issue of the presence of interlaced scanning in the proposed Standard, the Grand Alliance argues that, "* * * the Grand Alliance HDTV system emphasizes progressive scan—five of the six HDTV formats are progressive scan, and the Advisory Committee believes that the lone interlaced format should be 'migrated' to progressive as soon as improvements in digital compression and transmission technology make an over-1000 line, 60 Hz progressively scanned format achievable within a 6 MHz terrestrial channel."²⁹

41. There also has been objection from cinematographers to the 16:9 aspect ratio contained in the ATSC DTV Standard. They are concerned that the proposed Standard may limit broadcasters' ability to display the full

artistic quality of their work. They suggest, instead, that HDTV be displayed in a 2:1 aspect ratio. In reply, the Society of Motion Picture and Television Engineers (SMPTE) states that the 16:9 aspect ratio was established by the SMPTE Working Group on High Definition Electronic Production in 1985 on the basis of studies of the requirement for both motion picture and television production. Moreover, it states that the value of 16:9 for aspect ratio was decided upon only after long debate and that "due consideration was given to the then current practices both in North America and around the world."³⁰ SMPTE states that it has been demonstrated that there is no difficulty in accommodating program material or motion picture films of any reasonable aspect ratio within the 16:9 format and that material originally composed for a 2:1 aspect ratio could be accommodated by leaving 11% of the vertical space unused.³¹

42. Additionally, we note that low power television station ("LPTV") operators generally want to be included in the implementation of digital technology, and have suggested that, if LPTV is excluded, its continued viability would be jeopardized. LPTV commenters are concerned that any standards that could adversely affect their operations be thoroughly documented in this proceeding.³²

43. We seek comment on these issues. We believe that those opposing our mandate of the ATSC DTV Standard should have the burden of persuasion as to why that standard should not be adopted.

V. Protection From Interference

44. Protection from interference is a fundamental Commission function that must be considered when introducing new technologies into spectrum allocations currently in use. In addition to criteria we will propose in the near future, when we propose an initial Table of DTV Allotments and associated technical criteria, there are some interference-related aspects of the ATSC DTV Standard that we shall explore now. In the following paragraphs, we solicit comment on limitations on stations using the ATSC DTV Standard that might be needed to avoid

²⁵ *Second Inquiry*, *supra* at 6535.

²⁶ *Id.*

²⁷ See Comments of Apple Computer, Inc., and Microsoft Corporation, in response to the *Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry* in MM Docket No. 87-268 ("Fourth Further Notice"), 10 FCC Rcd 10540 (1995).

²⁸ Letter of Stanley Baron, President, Society of Motion Picture and Television Engineers ("SMPTE"), 28 August 1995, at 2, Memo of Paul Misener, ACATS, to Fiona Branton, ITI ("Misener Memo"), August 18, 1995, at 1-2. Reply Comments of the Digital HDTV Grand Alliance, in response to the *Fourth Further Notice*, at 38 and 40.

²⁹ Reply Comments of the HDTV Grand Alliance, *supra* at 40.

³⁰ Letter of Stanley Baron, President, Society of Motion Picture and Television Engineers, 18 August 1995, at 2.

³¹ *Id.* at 3. In this regard it notes that there is a broad range of aspect ratios that has been employed in modern times and that there is no single aspect ratio that is usable universally.

³² See, e.g., Comments of Abacus Television in response to the *Fourth Further Notice*, at 24-25.

²³ Preamble to Pub. L. 104-104, 110 Stat. 56 (1996).

²⁴ These options are not necessarily incompatible. For example, we could adopt a sunset provision but also provide for Commission review of the Standard prior to the sunset.

objectionable interference to reception of either existing NTSC service or the reception of other stations that use the ATSC DTV Standard.

45. First, we propose to adopt an emission mask, limiting the out-of-channel emissions from a DTV station transmitter, measured after any external filter that may be used and based on a measurement bandwidth of 500 kHz.

We seek comment on the following emission mask: (A) at the channel edge, emissions attenuated no less than 35 dB below the average transmitted power; (B) more than 6 MHz from the channel edge, emissions attenuated no less than 60 dB below the average transmitted power; and (C) at any frequency between 0 and 6 MHz from the channel edge, emissions attenuated no less than the value determined using the following formula:

$$\text{Attenuation in dB} = 35 + [(\Delta f)^2 / 1.44]$$

Where: Δf = frequency difference in MHz from the edge of the channel

This proposal is derived from analysis of the ACATS test results for protection of adjacent channel stations. The attenuation level is based on an assumption that the average DTV power in a 6 MHz channel is 12 dB less than the NTSC station effective radiated power (ERP). This power difference provides approximately equal noise limited coverage for DTV and NTSC stations in the UHF frequency band. If DTV stations are permitted to operate in a co-located adjacent channel arrangement with average DTV power exceeding that assumed value, greater attenuation of the out-of-band emissions may be required.

46. Second, ACATS has reported interference from an upper-adjacent channel DTV signal to reception of an NTSC station that is related to the precise location of the DTV signal pilot carrier frequency.³³ To prevent interference to NTSC receivers from this source, we are proposing to require an ATSC DTV Standard station pilot frequency to be located 5.082138 MHz above the visual carrier of the lower adjacent channel NTSC station. The above stated frequency difference between the NTSC visual carrier and the DTV VSB pilot would need to be maintained within a tolerance of ± 3 Hz.³⁴

47. Third, we propose to specify the maximum power for each DTV station as an average power across the occupied bandwidth, so an appropriate method or methods of determining operating

power will be different from the established NTSC procedures, which determine the power transmitted during each synchronizing pulse (peak power). We propose that stations using the ATSC DTV Standard would be allowed to determine their average power using conventional RMS averaging power meters.

48. We seek comment on all of the foregoing including whether the proposed limits on out-of-channel emissions, pilot carrier frequency tolerance and average power determination are appropriate and represent the minimum necessary requirements for controlling the interference potential of stations operating in conformance with the ATSC DTV Standard. We also seek comment on whether the proposed limits are sufficient for this purpose, or if other parameters also need to be constrained.

49. In addition to rules restricting broadcast stations that relate to interference concerns, there are many rules that establish procedures or have been applied broadly to all broadcast stations. We propose to modify many of them to include DTV, or to adapt them and create new DTV rules, as appropriate so that eligible licensees might move quickly to introduce this new technology to consumers. A preliminary list of these technical and procedural rules is attached as Appendix A. We seek comment on whether they should be modified to include DTV, be changed to treat DTV differently than NTSC or other broadcast services are treated, or if they need not be applied to DTV. Commenters addressing this issue should provide specific recommendations, rule-by-rule, as to the modifications they advocate.

VI. Interoperability

50. *Cross-Industry Interoperability.* Compatibility with other transmission forms and media applications has been an important issue throughout this proceeding. Since its inception, ACATS emphasized the need for DTV broadcasting technology to be interoperable with alternative media.³⁵ In addition, ACATS has recognized that interoperability takes on critical importance given the future needs for high resolution digital imagery and the development of a National Information Infrastructure. ACATS believes that the ATSC DTV Standard is suitably interoperable with other video delivery

media and imaging systems, including cable television, direct broadcast satellite, and computer systems.

51. The working party and an "interoperability review panel" also adopted a list of eleven characteristics critical to interoperability based on the needs and desires exhibited by alternative media advocates.³⁶ ACATS believes the Grand Alliance video system adequately addresses all eleven factors and strikes the best balance between various technical considerations and needs of different industries. It is a balance that has been endorsed by, among others, a subgroup of the Federal Government's Information Infrastructure Task Force, the 1994 NIST/ARPA Workshop on Advanced Digital Video, and the Information Technology Industry Council ("ITI").³⁷ We request comment on the level of interoperability between the ATSC DTV Standard and alternative media and on the ACATS Report's conclusion that it is adequate. Are there any critical interoperability problems that remain? What additional actions, if any, might the Commission take to facilitate interoperability? We ask that in commenting on this issue, commenters provide specific technical or economic analyses upon which we can make our decision.

52. With digital technologies, differences in transmission methods could develop between broadcast and alternative media if an appropriate variant of the ATSC DTV Standard is not required for alternative media. There is no guarantee that alternative media will choose the ATSC DTV Standard. In our *Second Inquiry*, we expressed "our tentative view that ATV compatibility among alternative media also may develop in an appropriate manner without government involvement."³⁸ While we recognized that there may be benefits to compatibility, we added that "we do not intend to retard the introduction of ATV on non-broadcast media, nor do we intend at this point to require compatibility among the various media or set specific signal or equipment

³⁶ ACATS Report, Appendix I.

³⁷ ACATS Report at 16. See also Information Technology Industry Council, "Position Statement on Standards for Advanced Television," October 31, 1995, at 1-2. We note that subsequently ITI stated that the ATSC DTV Standard "will be an important part of a diverse and flexible NII" and "urges the Commission to promptly adopt and implement" it, but without the interlace options, stating that it believes "a truly interoperable ATV system will require the exclusive use of progressive scan." See Comments of the Industry Information Technology Industry Council filed in response to the *Fourth Further Notice*, at 2-3.

³⁸ *Second Inquiry*, *supra* at 6537.

³³ ACATS Final Technical Report at 5.2.8.

³⁴ See Annex to ACATS Report, Record of Test Results for Digital HDTV Grand Alliance System (October 1995), at I-14-67.

³⁵ This description of the ACATS position on interoperability is largely derived from the ACATS Report at 15-16.

standards for this purpose.”³⁹ We seek comment on whether this view remains correct.

53. In the Cable Television Consumer Protection and Competition Act of 1992 (1992 Cable Act), Congress expressed concern about compatibility between consumer electronics equipment and cable systems.⁴⁰ We are aware of concern within the broadcast industry that, for example, cable systems may voluntarily adopt QAM modulation in lieu of VSB modulation specified in the ATSC DTV Standard. Some cable system operators suggest deploying a DTV system that does not use B-frames. While we understand that technical distinctions between broadcast and cable may at some extreme cause consumer harm, we also recognize that it is in the economic interests of the providers to ensure consumers have access to the most desirable programming. Today, nearly 60 percent of cable viewing hours are spent watching broadcast programming, much of which is provided under retransmission consent agreements. In light of these concerns, we seek comment on whether the public interest would be served by Commission involvement to assure compatibility between digital broadcast standards and digital cable standards. Similarly, there would appear to be advantages and disadvantages to Commission involvement to assure compatibility between other existing and potential competing video delivery methods, including DBS, MMDS, Instructional Television Fixed Service (“ITFS”) and open video systems. We seek comment on the considerations that apply in these different environments.

VII. Other Issues

54. *Receiver Standards and Related Features.* In the *Fourth Further Notice*, we solicited comment on whether DTV receivers should be required to have the ability to receive both SDTV and HDTV transmissions, whether we should regulate how such signals should be displayed and whether permitting the manufacture only of “all format” receivers capable of displaying NTSC, SDTV and HDTV signals would be consistent with the All-Channel

Receiver Act or otherwise in the public interest.⁴¹

55. Now, however, we have the ATSC DTV Standard before us. In Annex E, it indicates that our current TV rules should be appropriate for the digital TV service with respect to tuner performance, direct pickup and closed captioning.⁴² It notes that a 10 dB “noise figure” was used for spectrum planning purposes and it expects that value to be appropriate. Additionally, the ATSC DTV Standard indicates that any decoder interface standards we adopt for NTSC “cable-ready” receivers in ET Docket No. 93–7 will almost certainly provide a basis for rules concerning this aspect of digital TV receivers.⁴³ In its Final Report, the Technical Subgroup of ACATS recommended that the Commission require that receivers (and set-top boxes designed to receive ATV broadcasts for display on NTSC sets) be able to receive adequately all DTV formats.⁴⁴ In response to the *Fourth Further Notice*, some commenters expressed concern that such a requirement might have a large effect on either reception quality or receiver costs.⁴⁵ We request comment on the importance of this requirement for compatibility between receivers and broadcast signals. What level of reception performance should be considered adequate? Given our proposal that licensees must use the ATSC DTV Standard, is such a requirement necessary? We seek comment on necessary adjustments to the existing TV receiver rules so that they cover digital TV receivers.

56. *Licensing Technology.* We have previously stated that in order for DTV implementation to be fully realized, the patents on a DTV standard would have to be licensed to other manufacturing companies on reasonable and nondiscriminatory terms.⁴⁶ In response,

⁴¹ *Id.* at 10552.

⁴² ATSC DTV Standard at 61–64. Note that it describes “appropriate” as meaning that the existing rules for NTSC which are referenced contain most elements of future rules for digital television and, further, the rules may be expanded to cover digital television.

⁴³ *First Report and Order* in ET Docket No. 93–7, *supra*. Although the Commission adopted requirements for television receivers to be marketed as “cable-ready,” an open issue in that proceeding is a standard for a decoder interface.

⁴⁴ ACATS Report at 20.

⁴⁵ See, e.g., Comments of the Electronic Industries Association and the Advanced Television Committee at 16. See also Comments of Zenith Electronics Corporation at 4.

⁴⁶ *Notice of Proposed Rule Making* in MM Docket No. 87–268, 6 FCC Rcd 7024, 7035 (1991); *Second Report and Order/Third Further Notice of Proposed Rule Making* in MM Docket No. 87–268, 7 FCC Rcd 3340, 3358 (1992); *Memorandum Opinion and Order/Third Report and Order/Third Further Notice of*

the Advisory Committee’s testing procedures have required proponents of any DTV system to follow American National Standards Institute patent policies which require assurance that: (1) a license will be made available without compensation to applicants desiring to utilize the license for the purpose of implementing the standard; or (2) a license will be made available to applicants under reasonable terms and conditions that are demonstrably free of any unfair discrimination.⁴⁷ We seek comment on whether we should require more detailed information on the specific terms, if any, for patenting and licensing the ATSC DTV Standard.

57. *International Trade.* We recognize that other countries may choose other digital television systems that they feel more appropriately meet their needs, expectations or national priorities. Their systems may well be incompatible with the ATSC DTV Standard. Would our proposal here serve to enhance competitiveness of a U.S. system worldwide and what are the benefits associated with such a result? Will a requirement to use the ATSC DTV Standard as the sole authorized system exacerbate or enhance the opportunities of U.S. based content providers, equipment manufacturers or other parties? Additionally, to increase international compatibility, the Grand Alliance adopted the MPEG–2 video stream syntax for encoding of video and the MPEG–2 transport stream syntax for the packetization and multiplexing of video, audio and data signals. Should we pursue additional measures to facilitate international compatibility?

58. *Captioning.* Section 305 of the Telecommunications Act of 1996⁴⁸ requires the Commission, within 18 months after the date of enactment of the Telecom Act, to prescribe regulations to assure that video programming is fully accessible through the provision of closed captions. The ATSC DTV Standard reserves a fixed 9600 bits-per-second data rate for closed captioning.⁴⁹ We understand that EIA’s R4.3 Subcommittee on TV Data Systems is considering a standard to define the syntax for the data, as well as the issue of how to include closed captioning information for multichannel SDTV transmissions. Any comments parties may have concerning the ability of DTV to include captioning and how the Commission should implement

Proposed Rule Making in MM Docket 87–268, 7 FCC Rcd 6924, 6982 (1992).

⁴⁷ Advisory Committee ATV Test Procedures Test Management Plan at § 2.1.

⁴⁸ Pub. L. No. 104–104, 110 Stat. 56 (1996).

⁴⁹ ATSC DTV Standard at 26.

³⁹ *Id.*

⁴⁰ See Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102–385, 106 Stat. 1460, (1992). Section 17 of the 1992 Cable Act added a new Section 624A to the Communications Act of 1934, which has been implemented by *First Report and Order* in ET Docket No. 93–7, 9 FCC Rcd 1981 (1994). Section 301 of the Telecom Act, in turn, has modified Section 624A.

captioning requirements for DTV may be filed in response to this *Further Notice*.

Administrative Matters

59. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. Sections 1.415 and 1.419, interested parties may file comments on or before 45 days after publication in the Federal Register, and reply comments on or before 30 days after comments are due. To file formally in this proceeding, you must file an original plus six copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus eleven copies. You should send comments and reply comments to Office of the Secretary, Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239), 1919 M Street, N.W., Washington, D.C. 20554.

60. This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission Rules. See generally 47 C.F.R. Sections 1.1202, 1.1203, and 1.1206(a).

Initial Regulatory Flexibility Act Statement

I. Reason for Action

The Commission seeks comment on a variety of issues concerning whether to adopt a technical standard for digital television and, if so, whether that standard should be the one reported to the Commission by the Advisory Committee on Advanced Television Systems.

II. Objectives of the Action

The *Fifth Further Notice of Proposed Rule Making* solicits comment on a variety of issues, in order to establish an accurate, comprehensive, reliable record on which to base the Commission's ultimate decisions in this proceeding. The record established from comments filed in response to this decision, as well as other Commission decisions, and the combined efforts of the Commission, the affected industries, the Advisory Committee on Advanced Television Service, and the DTV testing process, will lead to implementation of DTV in the most harmonious fashion and to selection of the most desirable DTV system.

III. Legal Basis

Authority for this action may be found at 47 U.S.C. §§ 154 and 303.

IV. Reporting, Recordkeeping and Other Compliance Requirements

Such requirements are not proposed in this phase of the proceeding, but may be raised and comment sought in future decisions in this proceeding.

V. Federal Rules Which Overlap, Duplicate or Conflict With These Rules

There are no rules which would overlap, duplicate, or conflict with these rules.

VI. Description, Potential Impact and Number of Small Entities Involved

There are approximately 1,546 UHF and VHF, commercial and educational television stations, 2,587 UHF translator stations, 2,275 VHF translator stations, and 1,825 UHF and VHF low power television stations which would be affected by decisions reached in this proceeding. The impact of actions taken in this proceeding on small entities would ultimately depend on the final decisions taken by the Commission. However, the Commission, in taking future action will continue to balance the need to provide the public with affordable, flexible, accessible digital broadcast television service with the economic and administrative interests of the affected industries.

VII. Any Significant Alternatives Minimizing the Impact on Small Entities Consistent with Stated Objectives.

This *Fifth Further Notice of Proposed Rule Making* is intended to examine the issue of what, if any, transmission standard for digital television should be adopted by the Commission. In so doing, we are soliciting comments and suggestions that hopefully will represent the views of all of the industries concerned, and thus the Commission will be better able to minimize whatever negative impact might face small entities as a result of our decisions.

Ordering Clause

61. Accordingly, *it is ordered* That pursuant to the authority contained in Sections 4 and 303 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154 and 303, this *Fifth Further Notice of Proposed Rule Making* IS ADOPTED.

62. Additional Information: For additional information regarding this proceeding, contact Saul Shapiro (202-418-2600) or Roger Holberg (202-418-2134), Mass Media Bureau.

63. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the proposals suggested in this document. The IRFA is set forth above. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the Notice, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Secretary shall send a copy of this *Fifth Further Notice of Proposed Rule Making*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act. Public Law 96-354, 94 Stat. 1164, 5 U.S.C. Section 601 *et seq.* (1981).

Federal Communications Commission.
William F. Caton,
Acting Secretary.

Appendix A

Additional procedural or general broadcast rules that may be modified or adapted for DTV.

Sec.

- 73.607 Availability of channels.
- 73.611 Reference points and distance computations.
- 73.612 Protection from interference.
- 73.615 Administrative changes in authorizations.
- 73.621 Noncommercial educational TV stations.
- 73.635 Use of common antenna site.
- 73.684 Prediction of coverage.
- 73.685 Transmitter location and antenna system.
- 73.686 Field strength measurements.
- 73.688 Indicating instruments.
- 73.1010 Cross reference to rules in other parts.
- 73.1015 Truthful written statements and responses to Commission inquiries and correspondence.
- 73.1030 Notifications concerning interference to radio astronomy, research and receiving installations.
- 73.1120 Station location.
- 73.1125 Station main studio location.
- 73.1201 Station identification.
- 73.1202 Retention of letters received from the public.
- 73.1206 Broadcast of telephone conversations.
- 73.1207 Rebroadcasts.
- 73.1208 Broadcast of taped, filmed, or recorded material.
- 73.1209 References to time.
- 73.1211 Broadcast of lottery information.
- 73.1212 Sponsorship identification; list retention; related requirements.
- 73.1213 Antenna structure, marking and lighting.
- 73.1216 Licensee-conducted contests.

- 73.1217 Broadcast hoaxes.
- 73.1225 Station inspections by FCC.
- 73.1226 Availability to FCC of station logs and records.
- 73.1230 Posting of station and operator licenses.
- 73.1250 Broadcasting emergency information.
- 73.1510 Experimental authorizations.
- 73.1515 Special field test authorizations.
- 73.1520 Operation for tests and maintenance.
- 73.1580 Transmission system inspections.
- 73.1590 Equipment performance measurements.
- 73.1610 Equipment tests.
- 73.1615 Operation during modification of facilities.
- 73.1620 Program tests.
- 73.1635 Special temporary authorizations (STA).
- 73.1660 Acceptability of broadcast transmitters.
- 73.1665 Main transmitters.
- 73.1670 Auxiliary transmitters.
- 73.1675 Auxiliary antennas.

[FR Doc. 96-13394 Filed 5-28-96; 8:45 am]

BILLING CODE 6712-01-P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. 95-28; Notice 7]

RIN 2127-AF73

Lamps, Reflective Devices and Associated Equipment; Advisory Committee on Regulatory Negotiation Public Meeting

AGENCY: National Highway Traffic Safety Administration (NHTSA); DOT.

ACTION: Schedule of Advisory Committee on Regulatory Negotiation Meeting.

SUMMARY: This document announces the final meetings of NHTSA's Advisory Committee on Regulatory Negotiation (concerning the improvement of headlamp aimability performance and visual/optical headlamp aiming).

DATES: Wednesday-Thursday, May 29-30, 1996.

ADDRESSES: The meetings will be held at the Federal Mediation and Conciliation

Service, 2100 K Street, NW., Washington, D.C. The meeting of May 29 is scheduled for noon to 5:00 p.m. The meeting of May 30 will be from 9:00 a.m. to 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Jere Medlin, Office of Vehicle Safety Standards, NHTSA (Phone: 202-366-5276; FAX: 202-366-4329). *Mediator:* Lynn Sylvester, Federal Mediation and Conciliation Service, (phone: 202-606-9140; FAX: 202-606-3679).

SUPPLEMENTARY INFORMATION: The final meetings of the Advisory Committee on Regulatory Negotiation (concerning the improvement of headlamp aimability performance and visual/optical headlamp aiming) will be held on May 29-30, at which time it is anticipated that final consensus will be reached on a notice of proposed rulemaking on the subject of the negotiations.

The meetings are open to the public.

Issued: May 24, 1996.

Barry Felrice,

Associate Administrator for Safety Performance Standards.

[FR Doc. 96-13556 Filed 5-24-96; 12:33 pm]

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