Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Technical Standards for Determining Eligibility	)	
For Satellite-Delivered Network Signals Pursuant	)	ET Docket No. 05-182
To the Satellite Home Viewer Extension and	)	
Reauthorization Act		

To: The Commission

COMMENTS OF THE
CONSUMER ELECTRONICS ASSOCIATION

The Consumer Electronics Association ("CEA"), respectfully files these Comments in response to the Commission's Notice of Inquiry ("NOI") in the above-captioned proceeding.[1] CEA does not at this time wish to recommend specific rules changes related to determining whether a household is unserved by a DTV signal. However, CEA appreciates the FCC's consideration of this important subject and makes the following general comments.

It is beneficial to consumers, broadcasters, and direct broadcast satellite (DBS) service providers to make the determination of whether a household is unserved by an adequate digital TV signal as simple and consistent as possible. The goal of this proceeding should be to find an agreeable method of making this determination that relies first on prediction or modeling and does not require in-situ field testing. To that end, CEA is supportive of the FCC's current reliance on the modified Longley-Rice model for evaluating the field strength of a particular DTV station at a specific location.

Whatever the result of this inquiry, it is imperative that the FCC have a single, consistent definition of the service area for each analog and digital TV station. Those definitions today are

[1] *In the Matter of Technical Standards for Determining Eligibility For Satellite-Delivered Network Signals Pursuant To the Satellite Home Viewer Extension and Reauthorization Act*, Notice of Inquiry, ET Docket No. 05-182, FCC 05-94 (rel. May 3, 2005) ("NOI").

the Grade B contour and the DTV noise-limited service contour, respectively. In its Notice of Proposed Rulemaking on Unlicensed Operation in the Broadcast TV Bands[2], the FCC chose to use the Grade B contour as a precise demarcation of which channels should be considered unoccupied for the purpose of allowing unlicensed devices to operate in TV bands. Broadcast television viewers have a right to a consistent definition of whether their household is considered serve by a television station. That definition should not differ based on whether the reason for the question is determining if an unlicensed device can occupy that channel or if a DBS provider can deliver that channel as part of its service. In fact, it is entirely logical that if a station is weak enough to be considered an unoccupied channel, one should expect to receive that station by DBS service. The FCC must be careful not to end up with two regimes such that a household might be told that they can receive a weak local station (based on field measurement) and, therefore, are not eligible to receive that station by satellite and yet that same broadcast channel could be occupied by a nearby unlicensed transmitter (based on Grade B contour) and, therefore, rendered unusable.

Both receivers and the DTV receiving environment are extremely complex. It seems impractical and counterproductive to even attempt to factor in all the options that are available to consumers for determining whether an adequate DTV signal exists. Even if all receivers were found to perform very nearly the same, each installation is entirely different, both in the ambient RF environment and the antenna used to extract energy from that environment. The questions raised by this inquiry, although directed by Congress, can distract from the basic goal. The issue of DTV reception is tremendously complicated in an engineering sense, but the Government's involvement should be limited and specific so as to let the marketplace deliver the best solutions. The FCC should be wary of starting down a path of determining how much effort a consumer should put into broadcast DTV reception.

---

[2] *In the Matter of Unlicensed Operation in the Broadcast TV Bands*, Notice of Proposed Rulemaking, ET Docket No. 04-186, FCC 04-113 (rel. May 25, 2004) ("NPRM").

Comments on Specific Factors Raised by this Inquiry

The Notice provides six factors that are specified by the Satellite Home Viewer Extension and Reauthorization Act of 2004 (SHVERA)[3] to be considered by the FCC in this inquiry regarding whether rules should be revised for determining if a household is unserved by a DTV station. These factors are repeated here with brief comments as to their relevance for any rule changes.

- whether to account for the fact that an antenna can be mounted on a roof or placed in a home and can be fixed or capable of rotating;

Although antenna type and placement is indeed a critical factor in DTV reception, it is not appropriate for the FCC to consider these details for the rules in question. It is necessary and sufficient for the FCC to state that a given field strength, predicted or measured, at a known height above the location determines whether the household is served.

- whether Section 73.686(d) of title 47, Code of Federal Regulations, should be amended to create different procedures for determining if the requisite digital signal strength is present than for determining if the requisite analog signal strength is present;

The FCC rightfully points out the fundamental differences between analog and digital TV signals and the need for adapting measurement details to the particulars of DTV signals. CEA has not taken a position on the correct intermediate frequency (i.f.) bandwidth or tuning location to use for DTV signal strength measurement.

- whether a standard should be used other than the presence of a signal of a certain strength to ensure that a household can receive a high-quality picture using antennas of reasonable cost and ease of installation;

[3] *The Satellite Home Viewer Extension and Reauthorization Act of 2004*, Pub. L. No. 108-447, § 207, 118 Stat 2809, 3393 (2004) (to be codified at 47 U.S.C. § 325), § 204(b).

Again, CEA believes that determining the presence of a signal of a certain strength is the right level of involvement for the FCC. Going beyond that invites the quagmire of assessing reasonableness, cost effectiveness, and ease of installation.

- whether to develop a predictive methodology for determining whether a household is unserved by an adequate digital signal under section 119(d)(10) of title 17, United States Code;

CEA is supportive of using a predictive methodology for the benefit of all parties involved and to reduce the burden of determining whether a household is unserved. Our own efforts to help consumers select the best antenna for DTV reception[4] indicate that predictive modeling of reception at a given location is a tall challenge. However, the Longley-Rice model is a very good tool with years of engineering development. CEA is not aware of any industry discussion regarding a better model that might be used for the same purpose.

- whether there is a wide variation in the ability of reasonably priced consumer digital television sets to receive over-the-air signals, such that at a given signal strength some may be able to display high-quality pictures while others cannot, whether such variation is related to the price of the television set, and whether such variation should be factored into setting a standard for determining whether a household is unserved by an adequate digital signal;

Within the ATSC's work on A/74, *ATSC Recommended Practice: Receiver Performance Guidelines*, the tradeoffs involved in receiver design have been discussed in some detail among broadcasters and TV manufacturers. In a market guided by competition and not Government intervention, it should be expected to have products that optimize for different parameters. These variations are relatively small, as every

[4] See www.antennaweb.org.

manufacturer is motivated by competition to build good receivers, but these variations still serve the market. A DTV that has relatively poor weak signal reception as compared to every other receiver in the market, might have excellent selectivity and prove to be the ideal receiver for a particular location with closely packed channels. Conversely, suppose the FCC determines that there is very little variation in the ability of existing DTVs to receive over-the-air signals. Those same DTVs when connected to the many available antennas and placed in the infinitely complex RF environment will certainly demonstrate a wide variation in reception capability.

- whether to account for factors such as building loss, external interference sources, or undesired signals from both digital television and analog television stations using either the same or adjacent channels in nearby markets, foliage, and man-made clutter.

Again, CEA asserts that there is only so much that the FCC can factor into its determination of served households. Broadcasters, manufacturers, and retailers are all highly motivated to make broadcast television consumers successful in their quest to receive pristine HDTV signals. And yet, in the fringe areas that are the subject of this inquiry, there is no perfect predictor or guarantee of reception. The FCC should not attempt to account for the listed environmental factors beyond the degree to which they are accounted for today.

Conclusion

For the reasons expressed herein, CEA recommends that the FCC focus its attention on a consistent definition of served households based on field strength at the location, improvement of the Longley-Rice model if needed, and refinement of measurement procedures to accommodate

the specific nature of DTV signals. The FCC should not attempt to account for the myriad other factors that make up the DTV receiving system unique to every installation.

Respectfully submitted,

Michael D. Petricone, Esq.
Vice President, Technology Policy
Brian E. Markwalter
Vice President, Technology
CONSUMER ELECTRONICS ASSOCIATION
2500 Wilson Boulevard
Arlington, VA 22201
Tel: (703) 907-7644

June 17, 2005