

TESTIMONY OF

JIM STARZYNSKI

PRINCIPAL ENGINEER AND AUDIO ARCHITECT  
NBC UNIVERSAL, INC.

AND

CHAIRMAN OF THE ADVANCED TELEVISION SYSTEMS  
COMMITTEE'S SUBGROUP ON DIGITAL TELEVISION  
LOUDNESS

ON

H.R. 1084,

THE COMMERCIAL ADVERTISEMENT LOUDNESS  
MITIGATION ACT

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS,  
TECHNOLOGY, AND THE INTERNET

OF THE

COMMITTEE ON ENERGY AND COMMERCE

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Mr. Chairman and Ranking Member Stearns, thank you for inviting me to address the Subcommittee on H.R. 1084 and the issue of television loudness. I appreciate the opportunity to share with you a status report on what is happening in the television industry and at NBC Universal, Inc. regarding this important issue.

I am here today representing NBC Universal, which I serve as Principal Engineer and Audio Architect. My duties are overseeing audio technologies and practices for all NBC Universal television properties – the NBC Network, our 10 owned and operated NBC stations, 11 NBC Cable channels, the Telemundo Network, and our 16 owned and operated Telemundo stations. I have been working in the television industry for 25 years and have focused on digital television for the past 12 of those years. I also serve as Chairman of the Advanced Television Systems Committee's (ATSC) Subgroup on Digital Television Loudness. The ATSC is the technical standards organization for over-the-air digital television and in that capacity developed the standard that ultimately was adopted by the Federal Communications Commission (FCC) for over-the-air digital television transmission in the United States.

Let me open by stating that the ATSC's current digital standard as adopted by the FCC incorporates the necessary technology to eliminate variation in loudness during program to commercial transitions for America's broadcast television audience. Although ATSC standards generally apply only to over-the-air

broadcasting, the standards and technologies used by cable, satellite and telco operators are closely related. However, many broadcasters, as well as cable, satellite and telco multichannel video programming providers (MVPDs) and the TV production community, have been slow to effectively adapt to the changes required to transition from traditional analog audio techniques to new digital audio practices that are now required.

With digital television's expanded dynamic range and its goal to provide cinema-like sound to the audience also comes the opportunity for excessive variation in content when DTV loudness is not managed properly. This can be especially apparent when transitioning from programs to commercial material.

The programs and commercials that you see at home come from hundreds of different sources. Local TV stations obtain much of their programming from syndicators, and their ads usually come from local businesses. MVPDs typically distribute hundreds of digital channels that contain an exponentially larger number of localized ads. No single industry segment is to blame for unacceptable loudness variation. Coordinated action by all groups is the key to solving the loudness problem and achieving viewer satisfaction.

The industry is well aware that the current situation is bad for consumers, broadcasters, MVPDs, networks, advertisers and the production community. Our awareness is partly a result of self-interest: we are motivated to give our

audience the best possible listening experience, and we know that experience is not currently optimal. Through the introduction of legislation and other actions, Representative Eshoo and other Members of Congress have also contributed to our awareness of the problem and have helped galvanize industry action on this issue.

I am here to tell you that, in fact, the television industry understands the concerns about television loudness. We have invested significant effort and resources in voluntary action to address the situation. This hearing is timely because we are on the cusp of offering a solution.

First, I'd like to discuss the steps that NBC Universal has taken. Early on, NBC Universal recognized that the transition from analog to digital was going to require a culture change in the way we manage the audio for our programs and commercials, whether produced internally or obtained from outside suppliers. Our goal of a cinema-quality sound experience for the audience also created an opportunity for excessive variation if digital technology's range wasn't managed with a new level of care.

NBC Universal requires our in-house productions, external show suppliers and advertising customers to provide us with soundtracks that are compatible with our in-place ATSC audio practices. We require all of our content to be produced and delivered at a consistent loudness. We set our broadcast equipment to

properly operate at this loudness level. The same practices apply at the NBC network, our owned television stations and our cable channels, such as Bravo, Sci-Fi, MSNBC, CNBC and USA Network.

In the case of content that might be delivered with loudness outside the range of our specification, new technology is ready to be tested at WNBC-DT in New York, automatically normalizing the loudness of promotional material to match the rest of our programming. This technology operates with minimal intervention and retains the sound quality our content suppliers and audiences demand. It simply adjusts the volume of disparate content before transmission, much like the way any of us might adjust the sound with our remote control at home. This technology represents a huge leap forward in our ability to operationally address the loudness issue. If the technology is successfully tested at WNBC, we plan to apply to all NBCU television services.

Now let me inform you about the broader industry status. In April of 2007, the ATSC – the technical standards organization for over-the-air digital television – recognized that the emerging digital television loudness problem deserved more attention across the industry. Since that time, I have been privileged to chair an ATSC sub-group of technical experts on DTV loudness. This group is made up of the brightest, most experienced and most assertive audio professionals in the industry. We have representation from all of the major broadcast networks, as

well as representatives from cable, production and postproduction, manufacturing and education segments.

Our goal was to first recognize the problems impeding good DTV audio with consistent volume levels, then to start discussing and documenting the solutions to those problems. Through much collaboration, we determined that an explanation of best practices in five areas was the key to an effective industry solution. These five concerns became the basis of our ultimate goal of publishing a document called an ATSC Recommended Practice. They are:

1. Contemporary sound measurement
2. Establishing the correct sound monitoring environment
3. An explanation on how to properly manage DTV's metadata element, i.e., the data that control the characteristics of the audio
4. Management of dynamic range control, i.e., controlling the differences between the softest and loudest sounds
5. Methods to effectively control program-to-interstitial loudness, i.e., transitions from programs to commercials

This last section was motivated by a need to make certain that important information about how to manage program-to-commercial loudness was assembled in one place, capable of being followed independently from the other aspects of the Recommended Practice.

Although ATSC standards generally apply only to over-the-air broadcasting, the standards and technologies used by cable, satellite and telco operators are closely related. Therefore, this particular ATSC Recommended Practice can become the roadmap for all TV professionals, no matter what segment of the industry they work in or their level of technical sophistication. It explains how to effectively apply the ATSC audio standard with its ability to control digital television loudness. The experts that contributed to this work have created a comprehensive, effective and easy to read resource that covers all the issues from content creation, through distribution, transmission and to the end result, the consumer experience. We believe the prior unavailability of such a document, combined with the press of many other technical issues raised by tomorrow's digital television transition, at least partly explains the lack of focus on digital TV's loudness issue to date.

The ATSC Recommended Practice is fully assembled into a single document and is in its final phase of review by the audio experts group. Submission of a completed document to our parent group is on schedule for July 22 with anticipation of a finished, released document in September of this year.

I believe that, after release of the finished Recommended Practice, the industry will be well positioned to resolve concerns over TV loudness. The already in-place ATSC standard for over-the-air digital television incorporates the necessary

technology for solving the program to commercial loudness problem addressed in H.R. 1084. The Recommended Practices simply fleshes out the audio portions of that standard. The closely related standards and technologies used by cable, satellite and telco operators are likewise technically capable of solving the problem. Careful loudness management and inter-industry adoption of consistent practices is what is needed to solve this problem. The ATSC Recommended Practice provides the missing piece of the puzzle: an easy-to-follow roadmap for implementing existing technologies to address TV loudness concerns.

Because the industry is on the cusp of taking action to address TV loudness concerns, I think legislation on this matter is, for the moment, inadvisable. Legislation may slow down or stall widespread implementation of the industry-developed Recommended Practice while the industry waits for congressional and subsequent agency action. Further, legislation might result in a sub-optimal technical solution or require adherence to a technical standard that may become obsolete.

I know that the self-regulatory approach I am advocating may not provide some with the same level of assurance as a legislated solution. However, I can assure you that the industry is motivated to act. The awareness generated by congressional interest, and in particular Congresswoman Eshoo's introduction of H.R. 1084, combined with the timely release of a very focused and effective

technical resource developed by the ATSC, has created a tremendous amount of motivation across the television community to solve the loudness problem while providing an outstanding, contemporary television experience for the audience.

Once again, I thank you for your attention and for inviting me to address this issue. I would be pleased to answer any questions you may have.