

Before the
Department of Transportation, Office of the Secretary
Washington, D.C. 20554

In the Matter of)
Accommodations for Individuals Who Are) OST Docket No. 2006-23999
Deaf, Hard of Hearing, or Deaf-Blind)
)

WGBH National Center for Accessible Media

**COMMENTS ON PROPOSED AMENDMENTS TO RULES
IMPLEMENTING THE AIR CARRIER ACCESS ACT**

The WGBH Educational Foundation's National Center for Accessible Media (NCAM) hereby submits comments on the Department's Notice of Proposed Rule Making in the proceeding noted above concerning accommodations for individuals who are deaf, hard of hearing, or deaf-blind.

Introduction

1. The WGBH Educational Foundation is one of the country's leading public broadcasters and has long considered one of its central missions to be increasing access to media for people with disabilities.
2. In 1971, WGBH established The Caption Center, the world's first captioning agency, to produce captions for TV programs so that deaf and hard-of-hearing viewers could gain equal access to those programs. Today, The Caption Center is part of WGBH's Media Access Group and produces

captions and subtitles for every facet of the television and home video industry in addition to CD-ROM and Web-based multimedia and conventional and large-format theatrical motion pictures and theme park attractions.

3. The WGBH Media Access Group also houses WGBH's Descriptive Video Service® (DVS®) which makes television programs and movies accessible to people who are blind and visually impaired. WGBH developed DVS in 1990 and applies these and other access technologies to provide accessible electronic media for people with disabilities.
4. The WGBH National Center for Accessible Media (NCAM) is the research and development and policy arm of the Media Access Group at WGBH. NCAM was founded in 1993 to build on WGBH's knowledge base in the field of access technologies.
5. In October of 2005, NCAM was awarded a three-year grant (award no. H133G050254) from the U.S. Department of Education's National Institute on Disability Research and Rehabilitation (NIDRR) to study ways of making airline travel more accessible to passengers with sensory disabilities.
6. The project, "Making In-Flight Communications and Entertainment Accessible," is examining the technical barriers and potential solutions for making the range of airline entertainment, communications and information accessible to flyers with sensory disabilities. Resulting recommendations will cover the integration of captioning for video, descriptive narration for video and visual images, and audible navigation of system menus and accessible interface design.

7. NCAM is working closely with the in-flight entertainment (IFE) industry and with consumers to document barriers and to recommend effective and practical solutions that will make in-flight media more accessible.

Accessibility of videos, DVDs and other audio-visual presentations

8. NCAM's comments will focus on portions of Section 382.69 (part 9 of the NPRM published in the Federal Register on February 23, 2006). The NPRM asks,

What requirements must carriers meet concerning the accessibility of videos, DVDs and other audio-visual presentations shown on board aircraft to individuals who are deaf and hard of hearing?

9. With regard to the captioning of safety and informational videos, industry representatives have indicated that all safety messages are already being captioned and that pre-recorded informational messages are also readily captionable. The existing exemptions are therefore no longer required.
10. The NPRM's references to "high-contrast" captioning is perhaps a legacy of the days when text-display technology would often render light-colored text against light backgrounds, making caption text illegible. These days, character-generator production technologies enable simple and inexpensive creation of colors, backgrounds, outlines, drop shadows and other techniques that render highly readable on-screen text. The Department's rules no longer need to specify white letters on hard-edged black backgrounds as a means of assuring readability of captions. The providers of the captions or subtitles can

be guided by the requirement that the displayed text simply be "legible" or "readable" via any number of production techniques.

11. Section 382.69(b) also proposes to require carriers to provide captioning on all videos, DVDs and other audio-visual displays presented for entertainment purposes in new aircraft. Our preliminary investigations into in-flight entertainment systems indicates that the next-generation of in-flight systems can be designed to accommodate captioning in a variety of ways (open-captioning, English subtitling or user-selectable closed captioning similar to what is available on in-home TV sets today). However, the advances in these systems, not the roll-out of new aircraft, will trigger ready availability of captions. New aircraft may utilize older IFE systems and older aircraft may have their IFE systems upgraded. Therefore Department rules should be predicated on changes to IFE systems and not on purchases of or changes in aircraft.

12. Display of captions on next-generation IFE systems is a work in progress based on new means of distributing video signals throughout the aircraft cabin. These signals are not the type of analog television signals that presently accommodate closed caption display simply at the press of a button. Today's "line-21" caption data for broadcast and cable TV is not immediately compatible with the digital signals being routed to seat-backs in the newest IFE systems (the line 21 data format is also known as CEA-608 – the designator of the U.S. standard for analog closed captioning presently required by the Federal Communications Commission). While it is highly

likely that the transformation of existing caption data for use on in-flight systems can be developed, it is not yet an automatic or trivial process.

13. There are also variations in the type of video signals being provided in-flight. Movies, music videos and other pre-packaged TV programs may have already been captioned for broadcast; existing caption data may require some reformatting (editing and re-timing) to match the edited in-flight versions of the programs. This data editing would be required prior to being re-encoded in the video in an as-yet-to-be-determined data format. In addition, some aircraft provide live TV signals from satellite sources (DirecTV, Echostar) and while many or most of these signals are already closed captioned (using the line-21 data format), the caption data will either need to be automatically transformed to be compatible with seat-back displays or software-based closed-caption decoders will need to be developed and installed in in-flight media servers so that passengers may turn on the captions provided with the satellite signals when they desire.
14. Some have questioned whether captions may be too small to be readable on small seat-back displays or personal media viewers like portable DVD players. In fact, captions and other forms of text are commonly used in similar environments or situations such as on lap-top computers, PDAs, and cell phones. If properly rendered, captions can be as usable in these environments as they are on home TV sets.
15. Portable IFE units are being employed on some airlines as alternatives to installed systems. These players (usually DVD- or hard-disk-based) can

accommodate closed captions as readily as installed systems and may at times be a more readily achievable solution (many DVDs already have closed captions or English subtitles on them – available at the press of a button). If the variety of programming available on a portable IFE unit matches the variety available on a seat-back display, the Department should consider the use of alternate and equivalent accommodations.

16. There are a variety of terms used for the provision of on-screen text to accommodate the needs of people who are deaf or hard of hearing. In the U.S., "subtitles" generally refer to text created for language translation (that is, to accommodate the needs of a person who does not speak the language spoken in the program) and cannot be turned off. Subtitles tend not to contain "non-speech information" useful to people with hearing loss, i.e., sound effects, speaker identifications, music lyrics, on-screen placement, etc. In the instant case, subtitles may at times be in the language of the program (that is English text for an English-language video) and may thus serve the needs of people who are deaf or hard of hearing. "Open captions" consist of text that is recorded directly in the video ("burned in") and cannot be turned off at a user's discretion (open captions are like subtitles, but with additional non-speech information). "Closed captions" refer to text that can be toggled on or off at the user's choice, usually based on an encoded data signal, and is the common term for user-selectable text created for people who are deaf and hard-of-hearing.

17. Each of these types of text display can be useful in allowing a person who is deaf or hard of hearing to gain equivalent access to the audio portion of a program. Each may be appropriate depending on the distribution and display technology used on-board the aircraft and each should be allowed as means of assuring access to audio information via text.

Conclusion

18. Deaf and hard of hearing airline passengers have long expressed their strong desire for access to in-flight entertainment and communications. This NPRM represents the final stages of a long wait, as does the next generation of in-flight entertainment systems. At long last, emerging digital IFE technology will readily support a variety of means for displaying text for a range of entertainment and communications products and services. While further development is required, we believe the airline and IFE industries are both motivated and interested in serving the needs of people who require captions to understand and enjoy in-flight entertainment and communications. Time frames may be negotiated, but we believe that the technology will soon reward the patience of those who have waited so long.

Respectfully Submitted,



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