Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010	)	MB Docket No. 11-154
	)	
And	)	
	)	
Implementation of the Child Safe Viewing Act; Examination of Parental Control Technologies for Video or Audio Programming	)	MB Docket No. 09-26
	)	
And	)	
	)	
Empowering Parents and Protecting Children in an Evolving Media Landscape	)	MB Docket No. 09-194

COMMENTS OF TVGUARDIAN, LLC

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INTRODUCTION AND SUMMARY

The Twenty-First Century Communications and Video Accessibility Act of 2010 was intended to update the Telecommunications Act of 1996 in regards to closed captioning. Similarly, the Child Safe Viewing Act of 2007 was meant to update the Telecommunications Act of 1996 in regards to parental controls. Both recent Acts recognize that governmental requirements for technology need to adapt as technology evolves. Both Acts recognize that there are people today who are no longer being served by the original intent of the Telecommunications Act of 1996, and both Acts seek to rectify this. Yet these two needs—the needs of television viewers who are deaf or hard of hearing, and the needs of modern parents—are not being addressed equally. The purpose of these comments is not only to point out this

disparity and call for rectification, but also to point out how the efforts put forth by government and industry on closed-captions can also serve parents by providing another level of parental controls, without creating additional burden; and to remind the FCC that Congress, through the Child Safe Viewing Act, recognized the potential of using closed-captions as a method to filter foul language across a wide variety of media platforms and devices.

If the logic that was applied to answering the Child Safe Viewing Act of 2007 were to be applied to the Twenty-First Century Communications and Video Accessibility Act of 2010, those who are deaf or hard of hearing in America would have no hope of realizing any changes in closed captioning in America. Instead, the answer would be, "There is no single technology that works across a wide variety of media platforms, and we have a lot more questions."

Again, the Telecommunications Act of 1996 established guidelines for both closed captioning and parental controls. As new video technology is developed, Congress even instructed in the 1996 Telecommunications Act that "the Commission shall take such action as the Commission determines appropriate to ensure. If the Commission determines that an alternative blocking technology exists…" The Child Safe Viewing Act and the Twenty-First Century Communications and Video Accessibility Act of 2010, both written more than a decade later, were meant to give the Commission a nudge to do what they already had the authority to do under the 1996 Act, update these guidelines, making them accessible to modern users. While this is succeeding with closed captioning, significant actions are *not* being taken in regards to parental controls. In response to legislation, one segment of the population is being aided (the deaf and hard of hearing), while another segment (parents) is being ignored.

This is an injustice; one that is easily solved with little additional effort and cost through the use of closed-captions. Congress had the foresight to recognize the ability of using closed-

captions to provide another level of parental controls in a wide variety of media platforms, when, in the Child Safe Viewing Act, it asked for the Commission to consider advanced parental control technology that "can filter language based upon information in closed captioning."

COMMENTS OF TVGUARDIAN, LLC

I. Closed-Captions, Not Just For Those Who Are Deaf or Hard of Hearing

Even though closed-captions were initially required to benefit those who are deaf or hard of hearing, closed-captions have benefited society in many other ways, including:

a) FCC Recognized Additional Closed-Caption Benefits: According to the FCC's website (http://www.fcc.gov/guides/closed-captioning), "Closed captioning provides a critical link to news, entertainment and information for individuals who are deaf or hard-of-hearing. For individuals whose native language is not English, English language captions improve comprehension and fluency. Captions also help improve literacy skills."

b) Congress Recognized Closed-Caption's Parental Control Benefits: In the Child Safe Viewing Act, Congress asked for the Commission to consider advanced parental control technology that "can filter language based upon information in closed captioning." Congress had the foresight to recognize that closed-captions would one day be expanded to Internet video content, and using technology that could filter language utilizing closed-captions would not create an additional burden on industry; it also would work on a variety of media platforms and devices, potentially any device capable of reading closed-captions and/or receiving

the Internet, such as: gaming consoles, computers, TVs, mobile devices, cable boxes, Blu-ray players, DVD players, satellite receivers and DVRs.

II. Need for 3rd Party Access to Closed-Caption Data in Real Time

TVGuardian agrees with Google's opinion stated in its September 22, 2011 Notice of Exparte filing in the matter of MB Docket No. 11-154 (http://fjallfoss.fcc.gov/ecfs/comment/view?id=6016842499), "…the best solution would be for video programmers to create caption files with open, publicly specified formats, and to require hardware and device manufacturers to provide available application programming interfaces (APIs). Such APIs could meet the functional requirements for closed captioning so that closed caption information originally developed for broadcast television may be provided to consumers on internet devices with no loss of function or content. As long as the format of the captioning information is well-specified, and publicly defined, APIs are available for controlling the hardware necessary to display and interact with captions and video platforms can readily support the functional requirements demanded by consumers. A framework that incorporates open, publicly available APIs and formats is the least burdensome and most efficient way to ensure that developers meet their accessibility obligations and gives innovators the flexibility to drive captioning support across multiple platforms."

Internet video from sources such as Hulu, NetFlix, ABC.com, FOX.com, CBS.com, NBC.com, that currently provide closed-captions, only give the option of displaying the captions through their individual proprietary video players. Closed-caption data is not accessible by external devices and/or software. This limited

flexibility is a major step backwards which eliminates many of the benefits realized by closed-captions in the traditional TV format. This is also an issue with some cable boxes and satellite receivers. Although most do stream analog video containing Line 21 closed-caption data simultaneously and in sync with the HD audio/video for external decoders and devices (e.g. DVD recorders) to access, not all do. Some cable and satellite boxes do not pass through the closed-captions at all, but only allow displaying closed-captions using the box's own internal closed-caption decoding; others pass through the Line 21 data, but do so with errors, e.g. missing characters and captions out of sync with the original timing of the video content provider.

III. Need for Audio Synchronized Closed-Captions Pass Through

Closed-caption data not only needs to be accessible by third-party developers, but it also needs to be in sync with the audio, as it is normally on the original video content from the provider.

Since the Digital TV Transition, the closed-captions passed through by HD cable boxes and HD satellite receivers is often delivered behind the actual timing on the original content. To be more specific, scripted non-live TV shows and movies use pop-on closed-captions which display a block of text synchronized with the audible, spoken phrase. The pop-on closed captioned phrases are buffered slightly ahead of the spoken phrase, and then displayed as a block of text during the spoken phrase. Some cable and satellite boxes consistently deliver the passed through Line-21 closed-caption data several seconds (often a full spoken phrase) behind the audio, even though the closed-captions data is in sync with the audio on the video content. This is normally due to software design issues in the cable and satellite boxes; the

software is not streaming the data as it is presented on the video content from the provider. This makes the use of any external device which utilizes closed-captions obsolete. It makes devices designed to mute foul language based on synchronized pop-on closed-captions useless since delayed captions result in the mutes occurring several seconds after the audio. At best, out-of-sync closed-captions and audio is annoying for those who are deaf or hard of hearing to read dialogue behind the actions of the video displayed. These issues did not exist with non-HD cable and satellite boxes. The Commission should consider making rules requiring video distributors to consistently deliver closed-caption data for third-party access (pass through or API) with timing that matches the original from the video provider.

In addition, rules should be defined for video content providers to synchronize pop-on closed-captions with the audible spoken phrases on scripted non-live TV programs. Even though this is normally done in practice there are still exceptions. Some TV shows and movies have closed-captions placed several seconds (a full spoken phrase) behind the audio, and others have closed-captions placed several seconds (a full spoken phrase) ahead of the audio; both issues, when due to the video content provider, exist throughout the entire TV show or movie. In other words, if the first captioned phrase in a TV show or movie is behind the audio, all that follow will be behind; if the first captioned phrase is ahead of the audio, all that follow will be ahead. Rules should be defined to prevent this carelessness.

Again, the primary need is for video content distributors to provide access to closed-captions that match the timing on the original from video content provider. A rule requiring content distributors to pass through the closed-captions data made

available to external software and/or devices with the same synchronization found on the original video content would provide a solution for most video content.

IV. Closed-Captions and the Child Safe Viewing Act

In the Child Safe Viewing Act, Congress specifically asked the Commission to consider advanced technologies that (1) may be appropriate across a wide variety of distribution platforms, including wired, wireless and Internet platforms; (2) may be appropriate across a wide variety of devices capable of transmitting or receiving video or audio programming, including television sets, DVD players, VCRs, cable set top boxes, satellite receivers and wireless devices; **(3) can filter language based upon information in closed captioning** (bolded for emphasis); (4) operate independently of ratings pre-assigned by the creator of such video or audio programming; and (5) may be effective in enhancing the ability of a parent to protect his or her child from indecent of objectionable programming, as determined by such parent.

Congress recognized that closed-captions may be the key to providing advanced parental controls. Congress recognized that technology capable of filtering language based upon information in closed captioning has already been proven to work for millions of families. Congress also recognized that closed-captions would one day be required on Internet video content, too. That day has arrived.

By requiring closed-captions on Internet video content, the Commission may use its authority previously granted by Congress to also make rules requiring advanced foul language technology that: (1) is compatible with a wide variety of

devices and platforms, (2) can be implemented without affecting the packaging or pricing of a content provider's offering, and (3) is a robust, proven parental empowerment tool that has already been effective in the market. And, it is one that effectively addresses the number one concern of parents watching TV, namely, the prevalence of foul language on TV. Parents are comfortable with the current ratings system and program blocking technology (V-chip type) when it comes to deciding which TV shows and movies to let their children watch. However, once a program is being watched, advanced foul language filtering technology is needed; technology that works by reading the closed captioning embedded within the entertainment and automatically mutes the audio, and during the mute, pops-up a cleaned-up version of the phrase in the closed-captions, when appropriate. Based on user selectable filter levels, parents may have this technology filter just some of, or all forms of offensive language, including racial and sexual slurs

V. Language Filtering Technology Has Not Been Accurately Assessed

The Commission's report (FCC 09-69) in response to the Child Safe Viewing Act stated, "Taken as a whole, the record indicates that no single parental control works across all media platforms."

This simply is not accurate. The advanced foul language filtering technology works across all media platforms. Furthermore, it does not rely on new or complicated technology or a new data infrastructure, but uses the closed captioning already embedded in most entertainment today.

VI. Language Filtering Utilizing Closed-Captions Is Easy and Inexpensive to Implement.

As a technology embedded into software for Internet video players and other video devices, such as cable boxes, satellite receivers, gaming consoles, mobile devices, DVD players and Blu-ray players; language filtering technology which utilizes closed-captions is easy and inexpensive to implement. It is a software solution of only 6-8k in size that can be implemented within most devices within a matter of a few days. Since it is only software and the data infrastructure is already present (closed-captions), the only cost, once implemented, might be related to patents, and the patents related to this technology expire in 2017. After this date, foul language filtering technology becomes public domain.

As an external device, on the other hand, foul language filtering technology is costly, difficult to acquire, and often inaccurate due to inconsistencies in the delivery of pass through closed-captions by the video content distributors. For HD, HDMI circuitry has to be included in an external device for both inputs and outputs, and circuitry has to be included for Dolby Digital audio pass through and muting. Basically, an external device has to duplicate the circuitry already present in the cable box, computer, TV, surround-sound receiver and other devices consumers may have in their home; and, this external foul language filtering device must be purchased for each TV in the house. A family that has three TVs would currently have to spend in the neighborhood of $600. They might even have to change their cable/satellite provide to find one that works with the device. Bottom line: Forcing families to buy an external device to filter language using closed-captions is

expensive and not even always possible, depending on the cable or satellite provider.

What about families that do not have cable or satellite? Not only do these families using over-the-air TV have to purchase an external device to filter foul language using closed-captions, but this device needs to sit between the video tuner and the TV; therefore, they would need a HD TiVo, DVD Recorder with an ATSC turner, or other external ATSC tuner to work with the external foul language filter.

Only if it were a built-in technology of Internet video player software, TVs, DVRs, cable boxes, satellite boxes and other devices, could all families be assured equal access to this technology, with reliable accuracy (due to direct access to the closed-caption data), and without additional cost to the public. All major cable and satellite providers in America have already been offered this technology for families, yet they have pointedly refused to make it available to their subscribers. Some have flat out refused to even fix software bugs related to pass-through closed-captions that make external devices useless, saying they have other more important priorities. TV manufacturers have been presented with the opportunity. Internet video distributors have been presented with the opportunity. None have taken action. Government help is needed.

VII. A Disparity Exists Between the Actions Resulting from these Two Acts

The Commission responded to the Twenty-First Century Communications and Video Accessibility Act with actions that will lead to the original intent of the Act being met—within a reasonable period of time, those who are deaf and hard-of-hearing in America will be given access to closed captioning when they watch Internet programming. In other words, *the people the Act was written to help, will be*

helped.

Can the same be said of the Child Safe Viewing Act? Unfortunately, no. The fact is parents are still left with the same old outdated, inaccurate, all-or-nothing, lock-and-block technology of the V-chip from over 15 years ago. Meanwhile, their children are being subjected to unannounced, often-unforeseen obscene language, crude language, profanity and sexual, religious and racial slurs that have become almost commonplace on television today.

In recent years, Congress has passed legislation to assist two major segments of our population by updating the Telecommunications Act of 1996—parents and the disabled. Why is one segment of the population being helped by the Commission while another is being ignored?

When surveyed, parents have repeatedly said that the number one most offensive aspect on television today is the prevalence of foul language. *A proven, effective, advanced tool that allows parents to filter such language is available today.* This technology works across all media platforms capable of delivering closed-captions, yet the specific configurations and errors of a number of private cable and satellite providers prevent it from working effectively for hundreds of thousands of families.

As an external device, foul language filtering technology is costly, difficult to acquire, and often inaccurate due to inconsistencies in the delivery of pass through closed-captions by the video content distributors. Only if it were a built-in technology could all families be assured equal access to this technology, with reliable accuracy (due to direct access to the closed-caption data), and without additional cost

to the public. However, industry has refused to take action. Government help is needed.

When it was proposed that closed captioning be made available to families who watch entertainment today, both the government and the Commission began to take sufficient action. This has *not* been blocked by those who say the new technology is too hard to implement…or that one technology shouldn't be favored…or that consumers can buy such devices on their own so government shouldn't intervene…or that government intervention isn't needed because not everyone will use such technology. And yet, these exact same arguments have been used against the foul language filtering technology by the cable and satellite providers, Internet video providers, and apparently to some effect, most parents today still do not have easy and affordable access to this technology.

VIII. The Intent of The Child Safe Viewing Act Remains Unmet

The original intent of the Child Safe Viewing Act was not to provide more studies nor to ask more questions. The intent was to help parents. Has this intent been met? This Act has not yet brought about the effective, helpful means for parents to feel safe when they allow their children to watch TV. And, unfortunately, neither do we appear to be on the road to such a result. We would like to know why this is.

IX. The Action of the Commission is Requested

What action is needed? The Commission should make rules guaranteeing all families' access to technology that will help them protect their families from foul language within their homes while watching TV programming, effectively answering their number one concern about objectionable content. Foul language filtering

technology that uses closed-captions is a software solution that can be included into virtually any form of video media playing device—any manufacturer can do so without significant work or expense. Existing cable and satellite boxes can be upgraded with this technology through a normal software maintenance download. It can be added to Internet video player software with little effort and cost.

If the Commission deems a requirement to include language filtering technology in video player devices and software to be inappropriate, the Commission should at least require that closed-caption data be made available to external devices with the same synchronization and accuracy that exist on the original video content from the provider. Whether it is closed-captions on Internet video or closed-captions on traditional TV, it must be made available to third-party developers for use with software and external devices in real time, without delays or errors; otherwise, all additional benefits of closed-captions once found in the old analog world will be lost.

CONCLUSION

The government is a tool of the people of the United States, formed to help the people of the United States. In certain cases, the government must act to help protect its people in ways that the businesses serving those people would not do so on their own. For instance, we know that many cars would be without seatbelts today, or the adoption of such would have been delayed by many, many years, if auto manufacturers had been the only ones in charge of meeting this need for their customers. Would closed-captions be prevalent without Government? Closed-captioning for the deaf and hard of hearing is widespread today only because Government stepped in and made it so. Congress has recognized the

need for Government to require advanced parental controls for video content, too, and has given the Commission the authority to take action.

In a perfect world, Internet video providers, cable providers, satellite providers, and TV providers would offer parents the best tools available for protecting their families. Unfortunately, we live in a far from perfect world. Congress has taken the first step toward helping families with the Child Safe Viewing Act. We urge the Commission to follow-through on that step, to complete it, to help families today to be able to watch television in their homes without the fear of being assaulted by obscene language and racial and sexual slurs. We urge the Commission to help parents gain access to an advanced tool that will protect both them and their children.

The deaf and hard-of-hearing, and parents; closed-captions and advanced parental controls… these are all related, not just in their common need for the Government's help, but also in the solution—the solution can be found within the same data: closed-captions.