

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Closed Captioning of Internet Protocol-Delivered) MB Docket No. 11-154
Video Programming: Implementation of the)
Twenty-First Century Communications and Video)
Accessibility Act of 2010)

**OPPOSITION OF
THE CONSUMER ELECTRONICS ASSOCIATION
TO PETITIONS FOR RECONSIDERATION FILED BY
TVGUARDIAN AND THE CONSUMER GROUPS**

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EXECUTIVE SUMMARY

CEA recognizes and applauds the Commission's effort and hard work in crafting the *IP Captioning Order* to implement Sections 202 and 203 of the Twenty-First Century Communications and Video Accessibility Act of 2010 ("CVAA"). In developing the *IP Captioning Order*, the Commission generally followed Congress's directive to balance increased accessibility with the preservation of industry flexibility. Notwithstanding the Commission's adherence to this directive, the petitions for reconsideration filed by TVGuardian, LLC ("TVGuardian") and Telecommunications for the Deaf and Hard of Hearing, Inc. et al. ("Consumer Groups") would have the Commission reverse course and stray from the plain language of the CVAA. Accordingly, the Commission should deny both petitions.

Interconnection Obligation. The Commission should reject TVGuardian's attack on the Commission's interpretation in the *IP Captioning Order* of the Section 203(b) requirements for interconnection mechanisms. The Commission appropriately concluded, consistent with the plain language of the CVAA, that the interconnection obligation is satisfied so long as the video outputs of covered apparatus *either* pass through to the consumer equipment the closed caption data *or* render the closed captioning in the source device and then carry the captions as part of the video stream. The Commission also correctly determined that the High Definition Multimedia Interface ("HDMI") carries captions in compliance with this obligation.

As an initial matter, TVGuardian fails to explain why it did not raise its argument during the normal course of the proceeding. In addition, contrary to TVGuardian's assertion, the Commission's interpretation of the Section 203(b) requirements for interconnection mechanisms is fully consistent with the CVAA's requirement that recording devices be able to activate and deactivate closed captions as video programming is played back. The vast majority of recording devices used by consumers comply with the activate/deactivate requirement, and TVGuardian's requested strict pass-through requirement would not facilitate standalone recording devices in meeting the activate/deactivate requirement. Contrary to TVGuardian's argument, if Congress had intended to permit closed captions to be rendered only where pass-through is technically infeasible, Congress explicitly would have provided for a "technically feasible" limitation.

The Commission also should reject TVGuardian's assertion that HDMI does not comply with the Commission's television closed captioning rules in Section 79.1(c). TVGuardian's arguments are again procedurally flawed and misstate the law. Additionally, TVGuardian significantly underestimates the complexity of incorporating the pass through of closed captions into the HDMI standard, which is designed from the ground up to be an uncompressed video display interface.

Synchronization. The Commission should deny the requests of TVGuardian and the Consumer Groups to impose a closed caption synchronization requirement on apparatus manufacturers. Compliance with such an obligation would not be achievable for apparatus manufacturers since the apparatus is not in sole control of the timing relationship between captions and video, and imposing such a requirement would not address the alleged synchronization issues. In many cases, a video programming distributor uses its own

application, device, or plug-in to render the video programming, including closed captions, minimizing the risk that a consumer's apparatus will introduce possible synchronization issues.

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Pursuant to Section 1.429(f) of the rules of the Federal Communications Commission (“Commission”),¹ the Consumer Electronics Association (“CEA”) hereby submits its opposition to certain petitions for reconsideration of the Commission’s *IP Captioning Order*.²

I. INTRODUCTION AND SUMMARY

CEA recognizes and applauds the Commission’s effort and hard work in crafting the *IP Captioning Order* to implement Sections 202 and 203 of the Twenty-First Century Communications and Video Accessibility Act of 2010 (“CVAA”), which amended the Communications Act of 1934 (the “Act”).³ In developing the *IP Captioning Order*, the Commission generally followed Congress’s directive to balance increased accessibility for the deaf and hard of hearing community with the preservation of industry flexibility to enable

¹ 47 C.F.R. § 1.429(f).

² *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Report and Order, 27 FCC Rcd 787 (2012) (“*IP Captioning Order*”). CEA participated in the proceeding leading to adoption of the *IP Captioning Order*, filing both comments and reply comments.

³ Pub. L. No. 111-260, §§ 202, 203, 124 Stat. 2751, 2767-2773 (2010) (“CVAA”).

service providers and manufacturers to continue to innovate for the benefit of all consumers. Notwithstanding the Commission’s adherence to this clear legislative intent, the petitions for reconsideration filed by TVGuardian, LLC (“TVGuardian”) and Telecommunications for the Deaf and Hard of Hearing, Inc. et al. (“Consumer Groups”) would have the Commission reverse course, stray from the plain language of the CVAA, and unnecessarily restrict industry flexibility.⁴ Accordingly as discussed herein, the Commission should deny both petitions.

Interconnection Obligation. The Commission should reject TVGuardian’s attack on the Commission’s interpretation in the *IP Captioning Order* of the Section 203(b) requirements for interconnection mechanisms.⁵ The Commission appropriately concluded, consistent with the plain language of the statute, that the interconnection obligation is satisfied so long as the video outputs of covered apparatus *either* pass through to the consumer equipment the closed caption data *or* render the closed captioning in the source device and then carry the captions as part of the video stream. The Commission also correctly determined that the High Definition Multimedia Interface (“HDMI”) carries captions in compliance with this obligation.⁶

As an initial matter, TVGuardian fails to explain why it did not raise its argument during the normal course of the proceeding.⁷ In addition, contrary to TVGuardian’s assertion, the Commission’s interpretation is fully consistent with the CVAA’s requirement that recording devices be able to “activate and de-activate the closed captions ... as the video programming is

⁴ See Petition of TVGuardian, LLC for Reconsideration, MB Docket No. 11-154 (filed Apr. 16, 2012) (“TVGuardian Petition”); Petition of Telecommunications for the Deaf and Hard of Hearing, Inc. et al. (the “Consumer Groups”) for Reconsideration, MB Docket No. 11-154 (filed Apr. 27, 2012) (“Consumer Groups Petition”).

⁵ See TVGuardian Petition at 1.

⁶ See *IP Captioning Order*, 27 FCC Rcd at 854-55 ¶ 115.

⁷ See 47 C.F.R. § 1.429(b).

played back.”⁸ The vast majority of recording devices used by consumers comply with the activate/deactivate requirement, and TVGuardian’s requested strict pass-through requirement would not facilitate standalone recording devices in meeting the activate/deactivate requirement. Contrary to TVGuardian’s argument, if Congress had intended to permit closed captions to be rendered only where pass-through is technically infeasible, Congress explicitly would have provided for a “technically feasible” limitation.

The Commission also should reject TVGuardian’s assertion that the HDMI does not comply with the Commission’s television closed captioning rules in Section 79.1(c).⁹ TVGuardian’s arguments are again procedurally flawed and misstate the law, and thus should be denied. Additionally, TVGuardian significantly underestimates the complexity of incorporating the pass through of closed captions into the HDMI standard. HDMI is designed to transfer uncompressed video, pixel-by-pixel, from a source device, which decodes and renders the video completely, to a display device, which acts as a display monitor when using HDMI. It is well known and widely understood that caption decoding should occur in the HDMI source device, the same place video is decompressed.

Synchronization. In their respective petitions, both TVGuardian and the Consumer Groups argue that a closed caption synchronization requirement should be imposed on device manufacturers despite the fact that video programming owners and distributors (“VPOs” and “VPDs,” respectively) are better situated than device manufacturers to ensure captioning quality, including timing.¹⁰ In many cases, the VPD uses its own application, device, or plug-in to render

⁸ CVAA § 203(b).

⁹ TVGuardian Petition at 7.

¹⁰ See *IP Captioning Order*, 27 FCC Rcd at 812-13 ¶ 37.

the video programming, including closed captions, minimizing the risk that a consumer's apparatus will introduce possible synchronization issues. In any event, compliance with an apparatus synchronization requirement would not be achievable, and imposing such a requirement on device manufacturers would not address the alleged synchronization issues. If for some reason the Commission were to find that an apparatus synchronization requirement is necessary, the Commission should clarify that the apparatus is only required to render captions according to the timing data included with the video programming.

II. THE COMMISSION CORRECTLY INTERPRETED THE CVAA INTERCONNECTION OBLIGATION TO ALLOW EITHER THE RENDERING IN THE SOURCE DEVICE OR PASS-THROUGH OF CLOSED CAPTIONS

The Commission should deny TVGuardian's request for reconsideration of the *IP Captioning Order* with respect to the Section 203(b) requirements for interconnection mechanisms.

A. The TVGuardian Petition Fails to Meet the Standard for Reconsideration

As an initial matter, TVGuardian fails to explain why it did not raise its statutory interpretation argument during the normal course of the proceeding. Section 1.429(b) of the Commission's rules makes clear that TVGuardian may not raise this new legal argument or new facts unless the argument and underlying facts could not have been discovered through the "exercise of ordinary diligence" prior to its last filings with the Commission.¹¹ The language

¹¹ 47 C.F.R. § 1.429(b) (providing that a petition for reconsideration will be granted only if it relies on facts or arguments that have not been previously presented to the Commission and that (1) relate to events that have not occurred or circumstances that have changed since the last opportunity to present such matters to the Commission, (2) were unknown to the petitioner and could not have been discovered through the exercise of ordinary diligence until after his last opportunity to present them to the Commission, or (3) must be considered in the public interest, as determined by the Commission).

adopted in the *IP Captioning Order* was taken verbatim from Section 203(b) of the CVAA¹² and was considered in the Notice of Proposed Rule Making implementing the CVAA.¹³ TVGuardian had every opportunity to raise its statutory interpretation argument in its previous filings with the Commission, and it did not.¹⁴ As such, the Commission should dismiss TVGuardian’s petition as procedurally defective.

B. The Commission Has No Obligation to Structure Its Rules in a Manner That Favors TVGuardian’s Service, and Such a Result Would Not be Good Public Policy

The Commission should see the TVGuardian petition for what it is — an attempt to leverage the CVAA to avoid having to negotiate with VPDs for access to the data required to support its “foul language filter” products.¹⁵ TVGuardian’s foul language filters cannot operate without access to captions, which must be passed through as closed captions in order to be readable by the foul language filters. Implementing a strict pass-through requirement to support these filtering products has no nexus with the purpose of the CVAA, *i.e.*, “to help ensure that individuals with disabilities are able to fully utilize communications services and equipment and

¹² See CVAA § 203(b) (codified at 47 U.S.C. § 303(z)).

¹³ *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Notice of Proposed Rulemaking, 26 FCC Rcd 13734, 13758-65 ¶¶ 48-60 (2011).

¹⁴ The Commission has previously denied a petition for reconsideration when the petitioner argued against a proposed rule that “was adopted *verbatim* from the language proposed in the *Notice of Proposed Rule Making*.” *Amendment of Part 80 of the Rules Concerning Applications for VHF Public Coast Stations*, Memorandum Opinion and Order, 3 FCC Rcd 5146, 5147 ¶ 8 (1988); see also *Unlicensed Operation in the TV Broadcast Bands*, ET Docket Nos. 04-186 & 02-380, Third Memorandum Opinion and Order, FCC 12-36, ¶ 45 (2012) (dismissing, in part, the petition for reconsideration of Cellular South on the grounds that Cellular South failed to submit comments on the issue prior to filing the petition).

¹⁵ TVGuardian, Frequently Asked Questions, <http://www.tvguardian.com/learnfaq.html> (last visited May 30, 2012).

better access video programming.”¹⁶ Moreover, implementing a strict pass-through requirement would be antithetical to Congress’s overall intent to provide industry with maximum flexibility in meeting the accessibility goals of the CVAA, as exemplified in Congress’s inclusion of the “permit or render” language of the interconnection provision, which is further discussed below.¹⁷

Absent a Congressional mandate to support or promote foul language filters, such as TVGuardian’s filter, the Commission should refrain from structuring the apparatus closed captioning rules in a manner that artificially favors TVGuardian. Instead, the Commission should act in accordance with “settled policy, affirmed by courts, that [its] duty is to protect competition, not competitors.”¹⁸ Nothing in the existing rules prevents TVGuardian from negotiating with VPDs and/or equipment manufacturers to ensure access to the closed captioning data necessary to support TVGuardian’s business plan.

C. The Commission’s Interpretation of the Statutory Interconnection Obligation is Fully Consistent with the Activate/Deactivate Requirement for Recording Devices

The Commission should reject TVGuardian’s apparent argument that the Commission’s interpretation of the “permit or render” interconnection obligation¹⁹ should be changed because the activate/deactivate obligation for recording devices requires that interconnection mechanisms

¹⁶ H.R. REP. NO. 111-563, at 19 (2010) (“House Report”).

¹⁷ 47 U.S.C. § 303(z)(2).

¹⁸ *Structure and Practices of the Video Relay Service Program*, Further Notice of Proposed Rulemaking, 26 FCC Rcd 17367, 17399 ¶ 66 (2011) (citing *Bell Atlantic Mobile Systems and NYNEX Mobile Communications Co.*, Memorandum Opinion and Order, 12 FCC Rcd 22280, 22288 (1997); *SBC Communications, Inc. v. FCC*, 57 F.3d 1484 (D.C. Cir. 1995)) (internal quotations removed).

¹⁹ See 47 U.S.C. § 303(z)(2); 47 C.F.R. § 79.103(d).

pass through closed captioning data.²⁰ Consistent with the statutory language of the interconnection mechanism provision,²¹ the Commission correctly found that “it is sufficient, for purposes of this provision, if the video output of a digital source device renders the closed captioning in the source device.”²²

The Commission’s interpretation of the interconnection mechanism provision does not prevent compliance with the requirement that a recording device enable viewers to activate and deactivate closed captioning as the video programming is played back.²³ In fact, the interconnection provision and implementing rule do not even impact the vast majority of recording devices (*e.g.*, digital video recorders or “DVRs”) used by consumers. Because DVRs are typically integrated with the cable or telco set-top box or the DBS receiver, the video programming recorded by the DVR generally does not traverse an interconnection mechanism covered by the statute. Specifically, the interconnection mechanism provision only applies to an interconnection mechanism between two separate devices — a “source device” and the

²⁰ See TVGuardian Petition at 2-3. The activate/deactivate obligation for recording devices to which TVGuardian refers is contained in Section 203(b) of the CVAA. See CVAA § 203(b) (codified at 47 U.S.C. § 303(z)(1)) (requiring that “apparatus designed to record video programming transmitted simultaneously with sound ... enable the rendering or the pass through of closed captions ... *such that viewers are able to activate and de-activate the closed captions ... as the video programming is played back on a picture screen of any size*” (emphasis added)).

²¹ 47 U.S.C. § 303(z)(2) (“[T]he Commission ... shall ... [r]equire that ... interconnection mechanisms and standards for digital video source devices are available to carry from the source device to the consumer equipment the information necessary to *permit or render* the display of closed captions” (emphasis added)).

²² *IP Captioning Order*, 27 FCC Rcd at 855 ¶ 115.

²³ 47 U.S.C. § 303(z)(1) (“[T]he Commission ... shall ... [r]equire that ... if achievable ..., apparatus designed to record video programming transmitted simultaneously with sound ... enable the rendering or the pass through of closed captions ... *such that viewers are able to activate and de-activate the closed captions and video description as the video programming is played back on a picture screen of any size*”).

“consumer equipment.”²⁴ Similarly, the Commission’s implementing rule only applies to “video outputs.”²⁵ Indeed, many existing DVRs already are able to activate and deactivate closed captions as the video programming is played back, including models provided by TiVo, Comcast, Verizon, Charter, and Dish, as well as others.²⁶

In addition, TVGuardian overstates the activate/deactivate obligation of recording device manufacturers by failing to adequately acknowledge the “if achievable” limitation on all recording device requirements.²⁷ TVGuardian appears to misconstrue the activate/deactivate

²⁴ *Id.* § 303(z)(2).

²⁵ 47 C.F.R. § 79.103(d) (“Interconnection. All *video outputs* of covered apparatus shall be capable of conveying from the source device to the consumer equipment the information necessary to permit or render the display of closed captions.” (emphasis added)).

²⁶ See, e.g., Charter, *Scientific Atlanta DVR Troubleshooting – Play Back Issues: Closed Caption* (last visited May 29, 2012), <http://www.myaccount.charter.com/customers/Support.aspx?SupportArticleID=2664#closedcaption> (“To activate or deactivate closed caption on a DVR follow the steps below.”); DISH Network, *Receiver User Guide for DuoDVR ViP722k*, at 99 (last visited May 29, 2012), <http://www.mydish.com/support/filestream.ashx?ID=666> (“[Y]ou can display captions when you play back programs recorded on the receiver’s DVR (Digital Video Recorder), even if you didn’t have them turned on at the time the program was recorded.”); TiVo, *Closed Captioning Support* (last visited May 29, 2012), http://support.tivo.com/app/answers/detail/a_id/166/kw/closed%20caption%20and%20DVR#nohighlight (“Closed [c]aptioning [s]ettings will work for the majority of shows you watch or record”); Motorola, *User Guide: QIP6200/QIP64xx Series High-Definition Watch and Record DVR*, at 15 (last visited May 29, 2012), <http://onlinehelp.verizon.net/consumer/bin/pdf/fios/qip6xxxuserguide.pdf> (high-definition DVR provided by Verizon); Comcast, *Customer Central: Turning Closed Captioning On or Off*, (last visited May 29, 2012), <http://customer.comcast.com/help-and-support/cable-tv/turning-closed-captioning-on-or-off/> (“[O]n HDTV or HD DVR connected via HDMI cable, or three Component Video Cables, y]ou’ll need to use the cable box. Closed captioning should be turned off in your TV to avoid the chance of double layers of captions.”).

²⁷ See 47 U.S.C. § 303(z)(1) (requiring that “*if achievable* . . . , apparatus designed to record video programming transmitted simultaneously with sound . . . enable the rendering or the pass through of closed captions . . . such that viewers are able to activate and de-activate the closed captions . . . as the video programming is played back on a picture screen of any size” (emphasis added)); 47 C.F.R. § 79.104.

requirement as an absolute “mandate.”²⁸ If a covered recording device is unable to gain access to the necessary closed captioning data to enable a viewer to activate and deactivate closed captioning during playback,²⁹ the manufacturer would arguably have solid grounds to assert a non-achievability defense in response to a Commission enforcement action or to petition for an exemption.³⁰ In short, the “if achievable” limitation acts as a safety valve to help avoid placing undue burden on recording device manufacturers in meeting the obligations of Section 303(z)(1) of the Act.³¹

D. The Commission Should Reject TVGuardian’s Assertion That Congress Included “or Render” in Section 303(z)(2) Only to Provide an Exemption Where Pass-Through is Technically Infeasible

In its petition, TVGuardian suggests that by including the words “or render” in Section 303(z)(2) of the Act, Congress intended to permit the rendering of captioning as open captions only where pass-through of closed captions is technically infeasible.³² The Commission should reject this patently absurd suggestion. If Congress intended to provide a limitation on rendering captions that is based on the “technical feasibility” of passing through closed captions, it would have explicitly done so. For example, in Section 203(a) of the CVAA, Congress promulgated such a technical feasibility limitation by amending Section 303(u) of the Act to instruct the Commission to require that, “if technically feasible,” apparatus designed to receive video

²⁸ See TVGuardian Petition at 2-4.

²⁹ As TVGuardian readily admits, the HDMI license prevents the recording of an HDMI video signal irrespective of whether closed captions are passed through. *Id.* at 4. Thus, TVGuardian’s requested strict pass-through requirement would not facilitate standalone recording devices in meeting the activate/deactivate requirement.

³⁰ See 47 C.F.R. § 79.103(b)(3).

³¹ 47 U.S.C. § 303(z)(1).

³² TVGuardian Petition at 3-4.

programming transmitted simultaneously with sound be equipped with certain features to enable the display of closed-captioned video programming, among other material.³³ Thus, Congress clearly understood how to establish a technically feasible limitation. Contrary to TVGuardian’s assertions, Congress chose not to do so in the context of interconnection mechanisms. Any assertions to the contrary are simply wrong.

As the Commission correctly concluded, Congress’s use of “or” in Section 303(z)(2) “indicates an *alternative* means by which an interconnection device may satisfy the statute.”³⁴ One means by which an interconnection mechanism may satisfy the statute is to carry from the source device the requisite data to allow caption functionality in the receiving device — or in other words, to transmit captions from the source device to the receiving equipment in a closed manner. An alternative means by which an interconnection mechanism may satisfy the statute is to carry from the source device to the receiving equipment the information necessary for the rendered captions to be displayed on the receiving device. As the Commission finds in the *IP Captioning Order*, this interpretation appropriately gives effect to Congress’ use of the disjunctive “or” and “achieves the statutory purpose of ensuring consumer access to closed captions.”³⁵ If the Commission were to find otherwise, as suggested by TVGuardian, consumers

³³ See CVAA § 203(a) (codified at 47 U.S.C. § 303(u)(1)) (“[The Commission shall r]equire that, if technically feasible ... apparatus designed to receive or play back video programming transmitted simultaneously with sound ... (A) be equipped with build-in closed caption decoder circuitry; (B) have the capability to decode and make available the transmission and delivery of video description services ...; (C) have the capability to decode and make available emergency information”).

³⁴ *IP Captioning Order*, 27 FCC Rcd at 856 ¶ 117 (emphasis added); see also *id.* (“Read in context, we believe Congress intended to give the term ‘permit’ a different meaning than the term ‘render.’... We believe that our interpretation is reasonable because we give effect to Congress’s use of the disjunctive ‘or,’ and because our interpretation achieves the statutory purpose of ensuring consumer access to closed captions.”).

³⁵ *IP Captioning Order*, 27 FCC Rcd at 856 ¶ 117.

would be limited in their viewing of video content due to the lack of closed captioning support on some video outputs.³⁶

Neither the statutory language nor the legislative history provides any support for TVGuardian’s suggestion to limit the rendering of closed captions in the source device to those situations where pass-through is technically infeasible. The CVAA simply requires covered apparatus designed to record video programming delivered simultaneously with sound to “enable the rendering or the pass through” of closed captions “if achievable.”³⁷ The “technically feasible” standard is mentioned only in Section 203(a) of the CVAA.³⁸ However, in Section 203(a) the technically feasible standard limits the scope of an apparatus manufacturer’s obligation to equip apparatus with “built-in closed caption decoder circuitry or capability designed to *display* closed-captioned video programming,” among other things.³⁹ Section 203(a)

³⁶ *See id.* at 856 ¶ 117 (“[W]e conclude that the availability of closed captioning should not be limited to particular outputs, as consumers should not be limited in their viewing of content due to the lack of closed captioning support on a particular output.”).

³⁷ *See* CVAA § 203(b).

³⁸ *See id.* § 203(a). The phrase “technically feasible”/“technical feasibility” is mentioned in the CVAA in only two other provisions: Sections 102(c) and 106(g). In these sections, however, the phrase is used to limit the Commission’s authority to regulate. *See* CVAA § 102(c) (codified at 47 U.S.C. § 610(e)(2)) (instructing the Commission, in conducting rulemakings to implement the provisions in Section 710 of the Act concerning access to telephone service for the disabled, to “use appropriate timetables or benchmarks to the extent necessary (1) due to technical feasibility, or (2) to ensure the marketability or availability of new technologies”); CVAA § 106(g) (authorizing the Commission to implement the recommendations proposed by the Emergency Access Advisory Committee established pursuant to the CVAA, and any other requirements “necessary to achieve reliable, interoperable communication that ensures access by individuals with disabilities to an Internet protocol-enabled emergency network, where achievable and technically feasible”).

³⁹ *See* CVAA § 203(a) (codified at 47 U.S.C. § 303(u)) (emphasis added). Section 203(a) also amends Section 303(u) of the Act to require that apparatus designed to receive or play back video programming transmitted simultaneously with sound have the capability, *if technically feasible*, to decode and make available video description services and emergency information. *See id.* (emphasis added).

does not establish the technically feasible standard as a limitation on rendering in the source device even though passing through closed captioning also is possible, as suggested by TVGuardian.⁴⁰

Further, the CVAA’s legislative history does not support the argument made by TVGuardian with respect to CVAA Section 203(b). Of that provision, the House and Senate Reports merely state that it “provides that devices designed to record video programming enable the rendering or the pass through of closed captions ... if doing so is achievable.”⁴¹ In fact, the CVAA’s legislative history actually supports the conclusions reached in the *IP Captioning Order* with respect to recording devices and interconnection mechanisms and the rendering of caption data: that Congress intended for these devices to meet the captioning obligations imposed by the CVAA by either rendering or passing through caption data to the consumer equipment. In the version of the CVAA introduced in the Senate, the relevant provision in the original version of Section 203(b) read as follows:

Require ... that apparatus ... designed to record video programming ... transmitted simultaneously with sound, *retain and permit the pass through of closed captions ... such that viewers will be able to activate and deactivate the closed captions ... when the video programming is played back* on a picture screen of any size. Interconnection mechanisms and standards for digital video source devices must be able to carry program related accessibility data for people with disabilities from the source device to the consumer equipment so that the consumer is able to display closed captions and make encoded video description audible.⁴²

⁴⁰ See TVGuardian Petition at 3-4.

⁴¹ See House Report at 30; S. REP. NO. 111-386, at 14 (2010).

⁴² Equal Access to 21st Century Communications Act, S. 3304, 111th Cong. § 203(b) (2d Sess. May 4, 2010) (emphasis added).

This language was modified to match the language that appears in Section 203(b) of the CVAA in a subsequent version of the bill.⁴³ By removing the phrase “retain and permit the pass through of closed captions” from the provision of Section 203(b) that is applicable to recording apparatus and substituting the phrase “enable the rendering or the pass through of closed captions,” Congress made clear its intention that recording apparatus that render captions and pass them through to the consumer equipment as “open captions” be deemed compliant with their captioning obligations under the CVAA. Similarly, by substituting “are available to carry from the source device to the consumer equipment the information necessary to permit or render the display of closed captions” in place of “must be able to carry program related accessibility data for people with disabilities from the source device to the consumer equipment so that the consumer is able to display closed captions,” Congress made clear its intent that interconnection mechanisms that carry rendered (*i.e.*, “open”) captions to the consumer equipment be deemed compliant with their captioning obligations under the CVAA.⁴⁴ Thus, the CVAA’s legislative history does not support TVGuardian’s argument that Congress included “or render” in Section

⁴³ See Twenty-First Century Communications and Video Accessibility Act of 2010, S. 3304, 111th Cong. § 203(b) (2d Sess. Aug. 3, 2010) (authorizing the Commission to require “apparatus designed to record video programming transmitted simultaneously with sound,” if achievable, to “enable *the rendering or the pass through* of closed captions . . . such that viewers are able to activate and de-activate the closed captions . . . as the video programming is played back” and to require that “interconnection mechanisms and standards for digital video source devices are available to carry from the source device to the consumer equipment the information necessary to *permit or render* the display of closed captions” (emphasis added)).

⁴⁴ Unlike the Senate version of the bill, the original version of the House companion bill did not contain a closed captioning decoder and video description capability section. A section was added in a subsequent version of the bill to address these issues, and the language used in subsection (b) of that new section closely tracked the language that appears in Section 203(b) of the CVAA. See Twenty-First Century Communications and Video Accessibility Act of 2010, H.R. 3101, 111th Cong. § 203(b) (2d Sess. July 26, 2010); Twenty-First Century Communications and Video Accessibility Act of 2009, H.R. 3101, 111th Cong. (1st Sess. June 26, 2009).

303(z)(2) of the Act only to provide an exemption only where pass-through is technically infeasible.

E. The Commission Correctly Concluded that HDMI Carries Captions in Compliance With the Statutory Requirements for Interconnection Mechanisms

The Commission correctly concluded that “the manner in which the HDMI connection carries captions satisfies the statutory requirement for interconnection mechanisms.”⁴⁵ As discussed above, the Commission properly determined that rendering of captions in the source device and providing them as open captions to the display is consistent with the requirements of the CVAA. HDMI follows this model: it passes open captions, decoded and rendered in a source device, to the display, which acts only as a monitor.⁴⁶ Therefore HDMI complies with the interconnection mechanism requirements of the CVAA.

III. TVGUARDIAN’S ASSERTION THAT HDMI DOES NOT COMPLY WITH THE TV CLOSED CAPTIONING RULES IS MISPLACED AND INACCURATE

TVGuardian misstates the law and mischaracterizes the record in this proceeding in an attempt to establish that HDMI somehow violates the Commission’s existing TV closed captioning rules in Section 79.1(c) and that the Commission should therefore require HDMI to carry closed captions. The Commission should reject this irrelevant and incorrect allegation and TVGuardian’s proposed “solution.” It is unclear why TVGuardian chooses to allege a violation of the Commission’s TV closed captioning rules in a petition for reconsideration of new captioning rules for IP-delivered video. The obligations set forth in Section 79.1(c) are unchanged by the CVAA and the *IP Captioning Order*. Enforcement of those obligations is therefore outside of the scope of the *IP Captioning Order*, and, under the Commission’s rules, is

⁴⁵ *IP Captioning Order*, 27 FCC Rcd at 855 ¶ 115.

⁴⁶ *Id.* at 855 ¶ 116.

an inappropriate topic for a petition for reconsideration.⁴⁷ The Commission should therefore dismiss these allegations on procedural grounds.

In any case, HDMI does not violate Section 79.1(c), which merely requires that video programming distributors⁴⁸ deliver video programming “to receiving television households with the original closed captioning data intact in a format that can be recovered and displayed by decoders.”⁴⁹ It places no obligation on interconnection mechanisms, such as HDMI, that carry video from the set-top box to the consumer display device. Section 79.1(c) was adopted in a much earlier proceeding to ensure that distributors passed on to subscribers the ability to view captioning where captions were already included with the programming being distributed.⁵⁰ A system where the MVPD delivers closed captions to the decoder in a set-top box, which decodes the captions, renders them in the video frames, and then passes this video across HDMI to the display device, fully complies with both the letter of Section 79.1 and its purpose to ensure access to captioning.

IV. THE RECORD CLEARLY DEMONSTRATES THAT TVGUARDIAN SIGNIFICANTLY UNDERESTIMATES THE POTENTIAL BURDEN IMPOSED BY REQUIRING INTERCONNECTION MECHANISMS TO CARRY CLOSED CAPTIONING DATA

TVGuardian proposes that the Commission require interconnection mechanisms (specifically, HDMI) to carry closed captioning data to remedy alleged violations of the CVAA and the television captioning rules. But TVGuardian’s assessment of the burdens of modifying

⁴⁷ 47 C.F.R. § 1.429(l).

⁴⁸ “Video programming distributors,” as defined in Section 79.1, differs from the definition of video programming distributor under Section 79.4, but the difference is not relevant here.

⁴⁹ 47 C.F.R. § 79.1(c).

⁵⁰ See *Closed Captioning Requirements for Digital Television Receivers*, Report and Order, 15 FCC Rcd 16788 (2000).

the HDMI interface to pass through closed captions ignores the ample record evidence that implementing closed captioning in HDMI would be a lengthy and expensive task with little real benefit. TVGuardian alleges that carriage of closed captioning data over HDMI could “be accomplished with only a minor software change and possibly a slight design change.”⁵¹ Yet the record demonstrates that carriage of closed captioning data over an HDMI connection would require substantial revisions to the standard, which could take years and would also require substantial redesign of the chipsets and associated end-user products.⁵²

Moreover, TVGuardian’s discussion of the technical feasibility of carrying closed captioning over HDMI ultimately is irrelevant.⁵³ The Commission did not rely on the technical feasibility qualifier in correctly determining that a closed captioning mandate on HDMI was inappropriate. Instead, as discussed above, the Commission determined that the statutory language permitted captions to be rendered in the source device and carried to the display device as open captions, which HDMI accomplishes. The Commission was right to reject mandatory closed captioning over HDMI in the *IP Captioning Order*, and TVGuardian has offered no evidence that the Commission should reverse that decision.

V. THE COMMISSION SHOULD NOT IMPOSE A CLOSED CAPTION SYNCHRONIZATION REQUIREMENT ON DEVICE MANUFACTURERS

There is no legal or factual basis for the Commission to heed the calls of TVGuardian and the Consumer Groups for a captioning synchronization obligation on manufacturers. Caption

⁵¹ TVGuardian Petition at 8.

⁵² See CEA Comments, MB Docket No. 11-154, at 21 (filed Oct. 18, 2011); Reply Comments of HDMI Licensing, LLC, MB Docket No. 11-154, at 4-5 (filed Nov. 1, 2011); Letter from Jim Morgan, Director and Counsel, Sony Electronics, Inc. to Marlene H. Dortch, Secretary, FCC, MB Docket No. 11-154, at 2 (filed Oct. 12, 2011).

⁵³ See TVGuardian Petition at 8-10.

decoders are not the cause of timing synchronization issues, and, contrary to petitioners' claims, neither existing captioning standards nor the safe harbor standard adopted by the Commission for IP closed captioning provide any method for associating caption data with particular video frames.

As the Commission found in the *IP Captioning Order*, VPOs and VPDs are best situated to ensure captioning quality, including timing, and thus should bear the responsibility of ensuring the integrity of timing data for closed captions.⁵⁴ None of the assertions made by TVGuardian or the Consumer Groups should affect this conclusion. Moreover, the Video Programming Accessibility Advisory Committee (the "VPAAC") report developed to assist in the Commission's formulation of the *IP Captioning Order* placed no responsibility on device manufacturers with respect to ensuring that timing data is properly encoded and maintained through the captioning interchange and delivery system.⁵⁵ Indeed, in many cases VPDs use their own applications, devices, or plug-ins to render the video programming, including closed captions, thus minimizing any risk that a consumer's apparatus will introduce possible

⁵⁴ See *IP Captioning Order*, 27 FCC Rcd at 812-13 ¶ 37. As copyright holders, VPOs usually hold the legal rights required to modify video content by inserting closed captions. See *id.* at 800 ¶ 19; see also *id.* at 853 ¶ 112 ("[E]nsuring that timing data is properly encoded and maintained through the captioning interchange and delivery system is an obligation of Section 202 VPDs, and not of device manufacturers.").

⁵⁵ See FIRST REPORT OF THE VIDEO PROGRAMMING ACCESSIBILITY ADVISORY COMMITTEE ON THE TWENTY-FIRST CENTURY COMMUNICATIONS AND VIDEO ACCESSIBILITY ACT OF 2010, at 14 (July 13, 2011), available at http://beta.fcc.gov/cgb/dro/VPAAC/First_VPAAC_Report_to_the_FCC_7-11-11_FINAL.pdf ("*First VPAAC Report*") ("All processing through the distribution chain, including transcoding, must provide a timing experience that is equal to or an improvement to the timing of captions provided in the captioning shown on television."). In the *IP Captioning Order*, the Commission found that the language cited from the *First VPAAC Report* (quoted in the preceding citation) placed "no responsibility on device manufacturers" for "ensuring that timing data is properly encoded and maintained through the captioning interchange and delivery system." See *IP Captioning Order*, 27 FCC Rcd at 853 ¶ 112 & n.453.

synchronization issues.⁵⁶ The Commission should not risk chilling innovation by imposing a synchronization requirement on apparatus manufacturers, especially in the absence of any workable technical path for compliance or any actual data showing that a significant synchronization problem exists.

A. Caption Decoders Are Not the Cause of the Alleged Synchronization Issues

There is no merit to the claims of TVGuardian and the Consumer Groups that the internal processes of an apparatus cause captioning synchronization issues. Any problems with respect to caption timing are not caused by caption decoders and likely are related to content authoring. TVGuardian incorrectly asserts that many VPD-provided video source devices process closed caption data out of sync with the timing data provided by the VPO. However, TVGuardian fails to support its claims with data showing any captioning synchronization problems created by apparatus.⁵⁷ Similarly, the Consumer Groups speculate without support about possible causes of delays between caption presentation and the corresponding audio/video of video programming, arguing that “video post-processing ... may delay the display of video programming” and that captions therefore “may be displayed out of sync with video, even if they are properly synchronized at the time of encoding and the synchronization is maintained throughout the caption interchange and delivery system.”⁵⁸

All of these assertions are unfounded and misguided. Video post-processing and related functions generally are associated only with very minor delays, and there is no evidence that

⁵⁶ This is consistent with the VPAAC’s identification of delivery of managed video programming content to managed applications or consumer devices as one of three methods of delivery of video programming content to consumers. *See First VPAAC Report* at 20.

⁵⁷ *See* TVGuardian Petition at 7.

⁵⁸ Consumer Groups Petition at 19.

such post-processing, or other receiver functions, actually has caused significant or noticeable synchronization issues. Any observed delays in caption presentation are most likely related to content authoring. A great deal of captioning does not occur in real-time, which can yield captioning that is closely synchronized with the video when displayed. However, there is a wide range of caption authoring environments, and many caption workflows (*e.g.*, captioning of live events) create captioned content that has a built-in delay.⁵⁹

B. A Synchronization Requirement for Apparatus Would be Unworkable Because Traditional Captioning Mechanisms and the New Safe Harbor IP Captioning Standard Do Not Provide Timing Data

There is no workable path under new or existing standards by which manufacturers could comply with a timing synchronization requirement if it were adopted. Neither of the traditional analog and digital caption systems, nor the captioning system described in the Society of Motion Picture and Television Engineers Timed-Text format (“SMPTE-TT”), provides “precise[] ... timing data” for the presentation of caption text.⁶⁰ Therefore, even if the Commission were to impose a synchronization requirement on device manufacturers, device manufacturers would be without a mechanism for bringing receivers into compliance, as there is no such mechanism currently available.

The traditional captioning mechanisms — CEA-608 for analog video and CEA-708 for digital video — do not provide a method for associating caption data with specific video frames. Both CEA-608 and CEA-708 captions are supplied to receivers with only *relative* timing information — captions arrive in intervals, correlated to the video being displayed, but without

⁵⁹ This delay may be a period of anywhere between several and tens of seconds.

⁶⁰ Consumer Groups Petition at 18.

any timing information. Receivers generally display the captions as they are received.⁶¹ There would be no reason for receivers to delay caption display, as it would consume memory for no purpose.

The mechanism for relative timing provided in SMPTE-TT, which was adopted by the Commission as a safe harbor interchange and delivery format in the *IP Captioning Order*,⁶² very closely mirrors the existing practice in CEA-608 and CEA-708 with respect to synchronization. Under the SMPTE-TT format, caption data is processed after it arrives and is then displayed at a time relative to the previous and subsequent caption information.⁶³ SMPTE-TT does not correlate the display of caption text with the presentation of video and thus does not provide the precise timing data needed to meet a caption synchronization requirement. Therefore, contrary to the assertion of the Consumer Groups, none of the existing mechanisms for delivering captioning data provide timing information that is sufficiently precise to synchronize the display of caption text with the corresponding audio/video.⁶⁴

⁶¹ When a receiver processes CEA-608 caption data, the captions are displayed as received without reference to the corresponding point in the audio/video, because CEA-608 caption data contains no timing information. Similarly, when a receiver processes CEA-708 caption data, which is conveyed via data stream transmitted at 9600 bits per second (“bps”), the caption text is displayed as it arrives without reference to the corresponding point in the audio/video, because the data stream contains no timing information.

⁶² See *IP Captioning Order*, 27 FCC Rcd at 860 ¶ 124.

⁶³ SMPTE-TT includes two methods of signaling timing for caption presentation. The first method stipulates a specific day and time for the presentation of caption text — information that is not suitable for general use. When timing information is specified in this manner, recording or delaying the delivery of content would yield no captions whatsoever. The second method available in SMPTE-TT for signaling timing information is *relative* timing, which indicates the length of time the captions should be displayed and the length of time between captions.

⁶⁴ Consumer Groups Petition at 18; see *id.* at 19.

C. Any Apparatus Synchronization Obligation Should Only Require that Apparatus Render Captions According to the Timing Data Included with the Video Programming

If, for some reason, the Commission were to find that an apparatus synchronization requirement is necessary, the Commission should make clear that the apparatus is only required to render captions according to the timing data included with the video programming. Apparatus cannot be expected to correct timing errors in the data provided by the VPD.

VI. CONCLUSION

For the foregoing reasons, the Commission should deny the petitions for reconsideration filed by TVGuardian and the Consumer Groups.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Christopher Ross Clark, hereby certify that on this 7th day of June, 2012, copies of the foregoing “Opposition of the Consumer Electronics Association to Petitions for Reconsideration Filed by TVGuardian and the Consumer Groups” in MB Docket No. 11-154 were sent by U.S.

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