

January 15, 2014

via electronic filing

Marlene H. Dortch
Secretary, Office of the Secretary
Kris Monteith
Acting Chief, Consumer and Governmental Affairs Bureau
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

**Re: Consumer Expectations Regarding Closed Captioning Quality
CG Docket No. 05-231 · PRM-11-CG**

Dear Ms. Dortch and Ms. Monteith,

Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI), the National Association of the Deaf (NAD), the Hearing Loss Association of America (HLAA), the Association of Late Deafened Adults (ALDA), and the Deaf and Hard of Hearing Consumer Advocacy Network (DHHCAN) (collectively, “Consumer Groups”), and the Technology Access Program at Gallaudet University (TAP) offer these consumer expectations regarding the quality of television closed captions and discuss the captioning “best practices” that Ms. Monteith and Chairman Tom Wheeler called for during a roundtable meeting with consumer and industry representatives on December 20, 2013.¹

For more than 16 years, the deaf and hard of hearing community has noted the importance of enacting specific rules to ensure the quality of closed captions for television programming.² In light of the community’s decades-long effort to attain equal access to video programming through the provision of captions at a high level of quality, the Consumer Groups deeply appreciate Chairman Wheeler’s commitment to making caption quality a high priority, the hard work of the staff in the Consumer and Governmental Affairs and Media Bureaus to finally make quality standards a reality, and the efforts of industry representatives to identify best practices for creating and delivering high-quality captions.³

¹ See *Ex Parte of TDI, et al.*, CG Docket No. 05-231 and PRM-CG-11 (Dec. 24, 2013),

² See, e.g., *Closed Captioning and Video Description of Video Programming*, Report and Order, 13 FCC Rcd. 3272, 3367-68, 3372, ¶¶ 209, 217 (Aug. 22, 1997) (“*Closed Captioning Order*”).

³ See *Ex Parte of National Cable and Telecommunications Association (“NCTA”) and National Association of Broadcasters (“NAB”)*, CG Docket No. 05-231 (Jan. 14, 2014), <http://apps.fcc.gov/ecfs/document/view?id=7521065658>; *Ex Parte of National Captioning Institute (“NCI”)*, CG Docket No. 05-231, at 3 (Jan. 10, 2014) (“*NCI Ex Parte*”), <http://apps.fcc.gov/ecfs/comment/view?id=6017582913>.

While the road to caption quality standards has been long and winding, consumer expectations around caption quality have remained simple and consistent. In short, consumers expect that captions will be complete, accurate, readable, and synchronized when created and properly encoded, transmitted, passed through, and rendered to ensure equal access to video programming.⁴

More specifically, captions should first and foremost represent a *complete*, unabridged transcript of a video program’s soundtrack, and should include comprehensive textual representations of all spoken dialogue, song lyrics, on- and off-camera sound effects, and other audible events, accurately identify speakers, and use positional cues to indicate the location of audible events on the soundstage. We agree with the National Captioning Institute (“NCI”) that offline captions—i.e., not created in real-time—should be *verbatim* and without omissions in nearly all circumstances.⁵

Second, captions should include *accurate* transcriptions of a video program’s soundtrack. We agree with NCI that offline captions should be error-free and use correct words and proper spelling under nearly all circumstances.⁶

Third, captions should be fully *readable* and comprehensible. We agree with NCI that offline captions should always be correctly punctuated and be located on the screen in a manner that does not obscure textual or other visual content.⁷ Additionally, we expect that captions should be created with proper capitalization unless the program provider or captioner can demonstrate that presenting the captions entirely in capital letters improves comprehension by both children and adults. We believe this is the best approach because captions can be capitalized on the fly by software-based decoders if a viewer prefers capitalization, while the reverse—properly casing completely capitalized captions—requires advanced language processing and is substantially more difficult.

⁴ *E.g.*, *Petition for Rulemaking of TDI, et al.*, RM-11065 (July 23, 2004) (“*TDI PFR*”), <http://apps.fcc.gov/ecfs/comment/view?id=5511440137>; *Petition for Rulemaking of TDI, et al.*, PRM-11-CG (Jan. 27, 2011), <http://apps.fcc.gov/ecfs/comment/view?id=6016167106>; *Reply Comments of TDI, et al.*, CG Docket No. 05-231 (Dec. 16, 2005) (“*2005 TDI Reply Comments*”), <http://apps.fcc.gov/ecfs/document/view?id=6518190176>; *Comments of TDI, et al.*, CG Docket No. 05-231 (Nov. 24, 2010), <http://apps.fcc.gov/ecfs/document/view?id=7020921539>; *Ex Parte of TDI, et al.*, CG Docket No. 05-231 (June 1, 2011), <http://apps.fcc.gov/ecfs/document/view?id=7021683941>; *Ex Parte of TDI, et al.*, CG Docket No. 05-231 and PRM-CG-11 (July 26, 2013) (additional dockets omitted), <http://apps.fcc.gov/ecfs/document/view?id=7520933996>.

⁵ *NCI Ex Parte* at 3.

⁶ *See id.*

⁷ *See id.*

Fourth, captions should be *synchronized* properly. We agree with NCI that offline captions should be displayed on the screen simultaneously with and for the duration of the corresponding audible events and remain on the screen long enough to be read completely.⁸

We further expect that these four principles should be followed to the maximal extent possible for programming captioned in real time. While we recognize that the live nature of real-time captioning introduces additional challenges for completeness, accuracy, readability, and synchronization of captions, we believe they can largely be overcome in practice through diligent efforts by the video programming and captioning industries with appropriate incentives from the Commission.

To implement the four principles, the Commission should identify clear metrics for determining the completeness, accuracy, readability, and synchronicity of programming. With respect to completeness, accuracy, and readability, we believe that the Commission should utilize a metric similar to the one identified by NCI and the Canadian Radio-television and Telecommunications Commission (CRTC), which assesses the accuracy rate using the following formula:

$$r_{accuracy} = \frac{n_{words\ captioned} - errors}{n_{words\ in\ dialogue}} * 100$$

The errors counted in this metric should include misspelled, mistranslated, incorrectly substituted, incorrectly omitted, incorrectly inserted, or otherwise incorrect words and punctuation.⁹

In comments in this proceeding submitted more than 8 years ago, several of the Consumer Groups urged the Commission to set completeness, accuracy, and readability thresholds between 99.5% and 99.9% for offline captioned programming and at least 97% for live captioned programming.¹⁰ Substantial improvements in captioning technology in the intervening years warrant significantly higher thresholds. For offline captioning, we agree with NCI and the CRTC that the accuracy threshold should be 100% in nearly all circumstances, accommodating no more than *de minimis* errors.¹¹ We understand that this level of accuracy may take time to achieve and would support a phase-in period of three years, starting with 98% accuracy one year out, 99% accuracy two years out, and 100% accuracy three years out.

⁸ *See id.*

⁹ *See id.*; Broadcasting Regulatory Policy CRTC 2012-362, at App'x, ¶ 3, available at <http://www.crtc.gc.ca/eng/archive/2012/2012-362.htm>.

¹⁰ 2005 TDI Reply Comments at Summary, 7-9

¹¹ *See* CRTC Policy 2012-362, at App'x, ¶ 2; *NCI Ex Parte* at 3.

For live captioning, we believe that this threshold should eventually reach 98%. We would support a phase-in period of four years, beginning with 95% one year out, 96% two years out, 97% three years out, and 98% four years out.

For synchronicity, the Commission should use as a metric both (a) the gap between when an audible event begins and when the corresponding captions appear and (b) the gap between when the event ends and the corresponding captions disappear. For offline captions, these gaps should be nearly non-existent and effectively imperceptible—at most 100 milliseconds. This is analogous to the case of audio-video synchronization, where TAP’s research has shown that delay between audio and video of more than 100ms degrades the combined listening and lip-reading understanding by people with hearing loss.¹² This metric should nevertheless be flexible enough to accommodate situations where a longer gap is necessary to keep captions on the screen long enough for a viewer to read them, such as during rapid dialogue, where strict application of the metric would result in captions being on the screen for too short a time.

For real-time captions, these gaps should never exceed the time it takes a skilled captioner to hear and transcribe an audible event, plus the amount of time it reasonably takes to transmit the captions from the captioner back to the station, plus the time taken by equipment to merge the captions with the audio and video streams.

For both real-time and offline captions, we again support an appropriate phase-in period for applying synchronicity metrics of no more than three years for offline captions and four years for real-time captions. For real-time captions, we would specifically support a schedule that would require a maximum delay of six seconds during the first two years; four seconds during the second two years; and two seconds thereafter.¹³

Additionally, we believe that the Commission should draw a bright line that limits the utilization of real-time captioning for programming to situations where offline captioning is logistically or technically infeasible. In particular, we recommend that the Commission set a hard limit requiring programming recorded more than double its length prior to its airing—e.g., two hours before the airing of a one-hour program—to be captioned offline. For “near-live” programming recorded less than two hours prior to air but not aired live, we recommend that the Commission require the use of offline captioning where doing so is achievable, and that VPDs delivering near-live programming using real-time captions maintain records of the reason that offline captioning is not achievable, which in turn must be presented in response to a complaint that the captions contain errors. We also

¹² See Linda Kozma-Spytek, Paula Tucker & Christian Vogler, *Audio-visual speech understanding in simulated telephony applications by individuals with hearing loss*, ASSETS 2013, 6.

¹³ We understand that achieving a two-second delay requires the early provision of audio to the captioner and would support a requirement of no less than a three-second delay in circumstances where the early provision of audio is not achievable.

recommend that the Commission require live-captioned programming that is rebroadcast at a later time to be recaptioned using an offline method if the rebroadcast occurs within double the programming's length after it airs—i.e., two hours after the airing of a one-hour program.¹⁴ Finally, we recommend that the Commission require the phase-out of analog equipment and the elimination of all but *de minimis* equipment and transmission errors.

In line with the principles and metrics outlined above, the Commission should proceed with its plans to phase out the use of the electronic newsroom technique (“ENT”). As the National Association of Broadcasters (“NAB”) admitted in a recent *ex parte* filing, allowing the ongoing use of ENT—even with “certain ‘enhancements’”—would continue to deny viewers who are deaf or hard of hearing equal access to breaking news, on-scene, and weather reporting in markets outside the top 25, including those with substantial deaf and hard of hearing populations such as Albuquerque, New Mexico, Rochester, New York, Austin, Texas, Baton Rouge, Louisiana, Birmingham, Alabama, and Hartford, Connecticut.¹⁵ Live programming, including critical news and weather programming, should be captioned completely and ubiquitously according to the principles and metrics described above.¹⁶

While NAB alleges a lack of qualified live captioners to substitute for the use of ENT equipment, it offers no rebuttal to the likelihood that any shortage in captioners is *due* to the permissible use of ENT in many markets or that a strong market for skilled captioners would fill any such shortage in light of the demand created by the discontinuance of ENT.¹⁷ Moreover, NAB's speculative claims that the cost of live captioning might reduce or eliminate local news programming are not supported by evidence on the record in this proceeding and are better addressed, to whatever extent they are true for individual stations, by the Commission's existing process for granting individual waivers, which would permit stations to continue using ENT upon a showing that live captioning would impose an untenable economic burden.¹⁸

¹⁴ *See generally* CRTC Policy 2012-362, at App'x, ¶ 5 (describing the CRTC's policy for rebroadcast programming).

¹⁵ *See Ex Parte of NAB*, CG Docket No. 05-231, at 4 (Jan. 10, 2014), <http://apps.fcc.gov/ecfs/document/view?id=7521065249>. It is unclear what these “enhancements” might be, as NAB notes that stations would simply continue to use existing ENT equipment. *See id.*

¹⁶ NAB's speculation that real-time captioning “is commonly less accurate and complete than ENT captions derived from scripts” is undercut by its own admission that ENT-derived captions omit all unscripted portions of a program. *See id.* at 3-4.

¹⁷ *See id.* at 3.

¹⁸ *See generally* 47 C.F.R. § 79.1(f).

Finally, we reiterate that the ultimate quality of captions delivered to consumers, and not the process by which they are created, is the only logical and acceptable metric for the Commission to review in determining whether captions in fact facilitate the accessibility required by the Telecommunications Act of 1996 and the Twenty-First Century Communications and Video Accessibility Act. That entities follow some particular process to create captions for a program cannot cure the program's inaccessibility if the process ultimately results in poor-quality captions—a result that will carry forward as the program and its captions are rebroadcast or delivered via the Internet. Accordingly, the metrics and principles above should be mandatory for all video programming distributors and producers subject to the Commission's closed captioning rules.

Nevertheless, we continue to support the identification of best practices to provide useful guidance to content producers, broadcasters, multi-channel video programming distributors, and captioners (“MVPDs”) for achieving high-quality closed captions. In particular, we agree that identifying best practices could be used to establish a set of mitigating factors to be considered in enforcing violations of quality standards.

This limited, temporary “safe harbor” would not substitute for quality standards, but might alleviate sanctions for or even excuse an initial violation of the quality standards where a responsible entity undertook best practices to create and deliver the captions, such as including adherence to the quality standards in a contract between a captioner and video programmer. Any safe harbor, however, should require the responsible entity to take immediate remedial action and should not excuse subsequent violations of the quality standards.

Again, we note that maintaining comprehensive documentation and recordkeeping should be required for violators of quality standards to take advantage of the safe harbor. The Commission should also adopt aggregated compliance reporting requirements and baseline forfeitures to ensure that entities cannot treat non-compliance as a cost of doing business. In particular, reporting requirements would provide the public with critical documentation of the video programming industry's ongoing progress and efforts toward improving the quality of captions in general, researching, developing, and implementing technical improvements to overcome delays and errors in live captioning, refining best practices, and addressing complaints.

Finally, we again acknowledge, as we have described in specific terms above, that it will be necessary to phase-in caption quality rules over a reasonable period of time to facilitate full compliance. Nevertheless, establishing specific, measurable rules is critical to ensuring the civil right of Americans who are deaf or hard of hearing to access video programming on equal terms. Viewers who are deaf or hard of hearing pay subscription fees for cable and satellite programming and make up a significant portion of the public that broadcasters are obliged to serve, and those viewers rely on the Commission's oversight of closed captions to correct problems in the absence of a private right of action.

Again, we appreciate the Commission's efforts on this critical matter, and look forward to providing further input as the process moves toward a final set of quality standards. We continue to stand ready to work with industry representatives on the development of quality standards and best practices for captioning. Please let me know if you have any questions regarding this filing.

Respectfully submitted,

/s/

Blake E. Reid

Director, Samuelson-Glushko
Technology Law & Policy Clinic

blake.reid@colorado.edu • 303.492.0548

Cc:

Chairman Tom Wheeler

Commissioner Mignon Clyburn

Commissioner Jessica Rosenworcel

Commissioner Ajit Pai

Commissioner Michael O'Rielly

Maria Kirby, Office of Chairman Wheeler

Adonis Hoffman, Office of Commissioner Clyburn

Priscilla Argeris, Office of Commissioner Rosenworcel

Matthew Berry, Office of Commissioner Pai

Karen Peltz Strauss, Consumer and Governmental Affairs Bureau

Greg Hlibok, Consumer and Governmental Affairs Bureau

Eliot Greenwald, Consumer and Governmental Affairs Bureau

Caitlin Vogus, Consumer and Governmental Affairs Bureau

Suzy Rosen Singleton, Consumer and Governmental Affairs Bureau

Michelle Carey, Media Bureau

Mary Beth Murphy, Media Bureau

Steven Broeckaert, Media Bureau

Diana Sokolow, Media Bureau

Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)

Contact: Claude Stout, Executive Director • cstout@TDIforAccess.org

8630 Fenton Street, Suite 121, Silver Spring, MD 20910

www.TDIforAccess.org

National Association of the Deaf (NAD)

Howard Rosenblum, Chief Executive Officer • howard.rosenblum@nad.org

Contact: Andrew Phillips, Policy Counsel • andrew.phillips@nad.org

8630 Fenton Street, Suite 820, Silver Spring, MD 20910

301.587.1788

www.nad.org

Hearing Loss Association of America (HLAA)

Anna Gilmore Hall, Executive Director • AGilmoreHall@Hearingloss.org

Contact: Lise Hamlin, Director of Public Policy, LHamlin@Hearingloss.org

7910 Woodmont Avenue, Suite 1200, Bethesda, MD 20814

301.657.2248

www.hearingloss.org

Association of Late-Deafened Adults (ALDA)

Mary Lou Mistretta, President • aldamarylou@yahoo.com

Contact: Brenda Estes • bestes@endependence.org

8038 Macintosh Lane, Suite 2, Rockford, IL 61107

www.alda.org

Deaf and Hard of Hearing Consumer Advocacy Network (DHHCAN)

Cheryl Heppner, Vice Chair • CHEppner@nvrc.org

3951 Pender Drive, Suite 130, Fairfax, VA 22030

Technology Access Program at Gallaudet University (TAP)

Contact: Christian Vogler, Ph.D., Director • christian.vogler@gallaudet.edu

Department of Communications Studies

SLCC 1116, Gallaudet University

800 Florida Avenue NE, Washington, DC 20002

202.250.2795

tap.gallaudet.edu