

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

In the Matter of:

|   |   |                      |
|---|---|----------------------|
| <b>Telecommunications Relay</b>         | ) |                      |
| <b>Services and Speech-to-Speech</b>    | ) |                      |
| <b>Services for Individuals with</b>    | ) |                      |
| <b>Hearing and Speech Disabilities</b>  | ) | CG Docket No. 03-123 |
| <b>Structure and Practices of the</b>   | ) | CG Docket No. 10-51  |
| <b>Video Relay Service Program</b>      | ) | CG Docket No. 13-24  |
| <b>Misuse of Internet Protocol (IP)</b> | ) |                      |
| <b>Captioned Telephone Service</b>      | ) |                      |

**Comments of**

**Hearing Loss Association of America (HLAA)  
Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)  
National Association of the Deaf (NAD)  
Association of Late-Deafened Adults (ALDA)  
Cerebral Palsy and Deaf Organization (CPADO)  
American Deafness and Rehabilitation Association (ADARA)  
Deaf Seniors of America (DSA)  
CueSign  
National Cued Speech Association (NCSA)  
California Coalition of Agencies Serving the Deaf and Hard of Hearing (CCASDHH)  
National Black Deaf Advocates (NBDA)  
Deaf/Hard of Hearing Technology Rehabilitation  
Engineering Research Center (DHH-RERC)  
Rehabilitation Engineering Research Center on Universal Interface &  
Information Technology Access (IT-RERC)**

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Samuelson-Glushko Technology Law &  
Policy Clinic (TLPC) • Colorado Law

*Counsel to TDI*

Cara C. Groseth, Lucas M. Knudsen, and  
Wilson Scarbeary, *Student Attorneys*

Blake E. Reid, *Director*

[blake.reid@colorado.edu](mailto:blake.reid@colorado.edu)

**Hearing Loss Association of America (HLAA)**

Barbara Kelley, Executive Director • [bkelly@hearingloss.org](mailto:bkelly@hearingloss.org)  
Lise Hamlin, Director of Public Policy • [LHamlin@Hearingloss.org](mailto:LHamlin@Hearingloss.org)  
Rockville, MD  
[www.hearingloss.org](http://www.hearingloss.org)

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

Eric Kaika, Chief Executive Officer • [kaika@TDIforAccess.org](mailto:kaika@TDIforAccess.org)  
Silver Spring, MD  
[www.TDIforAccess.org](http://www.TDIforAccess.org)

**National Association of the Deaf (NAD)**

Howard Rosenblum, Chief Executive Officer • [howard.rosenblum@nad.org](mailto:howard.rosenblum@nad.org)  
*Contact:* Zainab Alkebsi • [zainab.alkebsi@nad.org](mailto:zainab.alkebsi@nad.org)  
Silver Spring, MD  
[www.nad.org](http://www.nad.org)

**Association of Late-Deafened Adults (ALDA)**

Rick Brown, Past President • [pastpresident@alda.org](mailto:pastpresident@alda.org)  
John Waldo • [johnfwaldo@hotmail.com](mailto:johnfwaldo@hotmail.com)  
Rockford, IL  
[www.alda.org](http://www.alda.org)

**Cerebral Palsy and Deaf Organization (CPADO)**

Mark Hill, President • [president@cpado.org](mailto:president@cpado.org)  
Silver Spring, MD  
[www.cpado.org](http://www.cpado.org)

**American Deafness and Rehabilitation Association (ADARA)**

Damara Goff Paris, Ed. D, NCC, CRC, LPC, President • [president@adara.org](mailto:president@adara.org)  
*Contact:* Caroline Kobek Pezzarossi • [caroline.pezzarossi@gallaudet.edu](mailto:caroline.pezzarossi@gallaudet.edu)  
Washington, D.C.  
[www.adara.org](http://www.adara.org)

**Deaf Seniors of America (DSA)**

Alfred Sonnenstrahl, President • [alsonny@icloud.com](mailto:alsonny@icloud.com)  
Rockville, MD  
[www.deafseniors.us](http://www.deafseniors.us)

**CueSign**

Amy Crumrine, President • [cuesign.inc@gmail.com](mailto:cuesign.inc@gmail.com)  
Germantown, MD

**National Cued Speech Association (NCSA)**

Benjamin Lachman, Vice President • [blachman@cuedspeech.org](mailto:blachman@cuedspeech.org)  
Washington, D.C.  
[www.cuedspeech.org](http://www.cuedspeech.org)

**California Coalition of Agencies Serving the Deaf and Hard of Hearing (CCASDHH)**

Sheri Farinha, Chair • [sfarinha@norcalcenter.org](mailto:sfarinha@norcalcenter.org)  
Sacramento, CA  
[www.norcalcenter.org](http://www.norcalcenter.org)

**National Black Deaf Advocates (NBDA)**

Isidore Niyongabo, President • [president@ndba.org](mailto:president@ndba.org)  
Washington, D.C.  
[www.nbda.org](http://www.nbda.org)

**Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, Gallaudet University (DHH-RERC)**

Christian Vogler, PhD • [christian.vogler@gallaudet.edu](mailto:christian.vogler@gallaudet.edu)  
Linda Kozma-Spytek, Senior Research Audiologist • [linda.kozma-spytek@gallaudet.edu](mailto:linda.kozma-spytek@gallaudet.edu)  
Washington, DC  
[www.deafhhtech.org/rerc](http://www.deafhhtech.org/rerc)

**Rehabilitation Engineering Research Center on Universal Interface & Information Technology Access (IT-RERC)**

Gregg Vanderheiden, PhD, Director • [greggvander@umd.edu](mailto:greggvander@umd.edu)  
Trace Research & Development Center • University of Maryland  
College Park, MD  
[www.trace.umd.edu/itrerc](http://www.trace.umd.edu/itrerc)

## Summary

IP CTS services are indispensable for the millions of Americans who are hard of hearing, deaf, or DeafBlind. People use IP CTS to complete critical life tasks, including talking with family members, setting up appointments, and speaking with doctors, lawyers, therapists, customer service representatives, and many more. Using IP CTS can be a matter of life or death; for example, people must have access to accurate and speedy captioning services while calling emergency services after a car accident or scheduling a doctor's appointment to receive the Covid-19 vaccine.

We applaud the Commission's dedication to properly fund and regulate these services. Further, we strongly agree with the Commission that the current rules should be amended to provide for robust, efficient, objective, and quantifiable measurement of the quality of service. These measurements should be consistent regardless of how the service is delivered, whether by the more traditional IP CTS via a CA who revoices, via CART, by a fully ASR platform, or by any other delivery mode.

As such, these metrics will become the cornerstone of all IP CTS services, and must be strong, well-researched, and focused on protecting consumers. The Commission should employ an independent American National Standard Institute ("ANSI") accredited body to determine the metrics, measurement methodology, and performance criteria that will ensure consumers will receive adequate IP CTS services. No single stakeholder group can or should determine these aspects without the involvement of other stakeholder groups; an ANSI-accredited body would require representative participation among stakeholder groups and utilize member resources to provide contributions that inform the development of metrics, measurement methodology, and performance criteria to ensure consumers have access to reliable, quality IP CTS services. Testing methodology should be established by an ANSI-accredited body, and ongoing testing should be conducted by an independent testing entity to ensure impartiality, accuracy, and candor.

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## Discussion

The above-signed Consumer Groups and accessibility researchers respectfully submit these comments in response to the Commission's Further Notice of Proposed Rulemaking ("2020 FNPRM") in the above-referenced dockets.<sup>1</sup> The Consumer Groups collectively advocate for equal access to communications, including the provision of IP CTS, for the more than 48 million Americans who are hard of hearing, deaf or DeafBlind. The accessibility researchers work in conjunction with the Consumer Groups to address the technical challenges faced in securing access to communications by people who are hard of hearing or deaf. Our filings over the past several decades, including the 2011 TRS Policy Statement from many of the Groups, reflect our unique expertise and experience in representing the community of consumers that benefit from using IP CTS, which has empowered their communicative relationship with family, friends and coworkers.<sup>2</sup>

In the recent FNPRM, the Commission continues the long-running project of establishing goals and metrics for the IP CTS program. We urge the Commission to develop the program's goal and metrics with a focus on the interests of consumers who rely on IP CTS and thus are best positioned to understand the impact of performance goals and standards for the service.

In addressing the questions raised by the FNPRM, the Commission should:

- Adopt metrics for caption quality developed by an ANSI-accredited standards body;
- Adopt additional metrics for speed of answer, dropped/disconnected calls, and service outages;

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<sup>1</sup> *Misuse of Internet Protocol (IP) Captioned Telephone Service*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, CG Docket Nos. 13.24, 03-123, 10-51, 35 FCC Rcd. 10,866, 10,896, ¶ 62 (October 2, 2020) ("2020 FNPRM"), [https://docs.fcc.gov/public/attachments/FCC-20-132A1\\_Rcd.pdf](https://docs.fcc.gov/public/attachments/FCC-20-132A1_Rcd.pdf).

<sup>2</sup> See generally Consumer Groups' TRS Policy Statement (April 12, 2011), <https://www.fcc.gov/ecfs/filing/6016375701> ("TRS Policy Statement").

- Utilize an ANSI-accredited standards body to determine appropriate testing, measurement methodologies, and performance criteria;
- Utilize an independent testing body to conduct all testing to measure service quality.

**I. The Commission should adopt metrics for caption quality through an ANSI-accredited standards body.**

The Commission seeks comment on adopting minimum standards for caption delay and caption accuracy.<sup>3</sup> We support the adoption of quantifiable, measurable benchmarks in these areas for IP CTS. As the Commission rightly notes, adoption of such standards is necessary to ensure the statutory objective of functional equivalence mandated by Section 225 is met.<sup>4</sup> These categories should be referred to an American National Standard Institute (“ANSI”)-accredited standard setting body to articulate the specific definitions, testing methodologies, performance criteria, and metrics requested by the Commission.

Shortly after the 2018 Notice of Inquiry was released, a group of IP CTS service providers began a private effort to develop the measurement methodology needed for performance standards, resulting in the development of the Joint Providers Recommendations.<sup>5</sup> While we appreciate the considerable efforts undertaken by the service providers, we remain concerned that this effort was not under the control of other stakeholders. Without an open and standardized process, it is not possible to hold entities involved in the process accountable, nor determine if the needs of all users are accounted for in the process. Any effort towards the development of measurement

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<sup>3</sup> 2020 NPRM, 35 FCC Rcd. at 10,898, 10,900, ¶¶ 67, 71.

<sup>4</sup> *Id.* at 10,898, ¶ 67.

<sup>5</sup> Ex Parte of Hamilton Relay, CaptionCall, InnoCaption, and ClearCaptions, CG Docket Nos. 12-24 and 03-123, attachment at 3-6 (filed Aug. 21, 2018), <https://ecfsapi.fcc.gov/file/10821120113100/Letter%20re%20IP%20CTS%20Quality%20Metrics%20-%208-21-18.pdf> (“Joint Providers Recommendations”).

methodologies for IP CTS must include consumers, who are uniquely positioned to identify the ways in which proposed measurements will affect the user experience, and accessibility researchers, who provide a level of technical expertise that may otherwise be excluded.

To ensure a fair, transparent process and to ensure that decisionmakers have the most accurate information to inform policy, the Commission should use an American National Standard Institute (“ANSI”)-accredited standards body to develop performance standards for IP CTS caption quality. Working with an ANSI-accredited standards body would yield multiple advantages, including due process, notification of standards development and a lack of dominance by any single interest category.<sup>6</sup>

Participation in an ANSI-accredited standards development process is open to all who are directly or materially affected by the potential standards in question, ensuring a balance of interests are present including consumers and technical experts as well as providers.<sup>7</sup> This dynamic allows for increased openness and transparency throughout the process. Standardization of metrics would further provide consumers with an easier means of comparing products and service offerings, which in turn sharpens competition.

The Commission has undertaken standards setting in this manner before. The current hearing aid compatibility standards, for example, were sent to an ANSI-accredited body for substantially the same reasons—to ensure the participation of all relevant stakeholders and to further the inclusion of technical experts with vital knowledge and experience to bring to the process.<sup>8</sup>

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<sup>6</sup> American National Standards Institute, ANSI Essential Requirements: Due process requirements for American National Standards 4 (January 2021), [https://share.ansi.org/Shared%20Documents/About%20ANSI/Current Versions Proc D ocs for Website/ER Pro current.pdf](https://share.ansi.org/Shared%20Documents/About%20ANSI/Current%20Versions/Proc%20Docs%20for%20Website/ER_Pro_current.pdf).

<sup>7</sup> *Id at 5.*

<sup>8</sup> See Comment Sought on 2010 Review of Hearing Aid Compatibility Regulations, Report and Order and Order on Reconsideration, 32 FCC Rcd. 9063, 9067, n.16 (2017),

Here, the Commission should employ an ANSI-accredited standards body to develop specific metrics for caption delay and accuracy. Questions regarding specific measurement methodologies such as Word Error Rate can be addressed to the standards body during the PINS deliberation which kicks off any ANSI-accredited process.<sup>9</sup> We encourage the Commission, however, to keep the charge to the ANSI body open-ended and focus broadly on these two categories. Any attempt to drill down further could preclude the standards body from investigating a necessary subcategory that may arise as vitally important during the standards setting process.

Finally, the Commission should begin planning to incorporate the standards set by the ANSI-accredited body into rules to ensure swift adoption after the standards setting process is complete. ANSI standards can easily be incorporated by reference into the ultimate rules adopted by the Commission; for example, the HAC rulemaking references the C63.19 standard.<sup>10</sup> Metrics remain long overdue and the Commission should avoid any further delay beyond what is necessary to promulgate fair, transparent performance standards.

## **II. The Commission should adopt additional metrics regarding speed of answer, dropped/disconnected calls, and service outages.**

In the Commission's 2018 IP CTS Notice of Inquiry, the Commission sought comment on establishing both performance goals and measures for IP-CTS in areas outside of caption quality, including: 1) transcription speed; 2) speed of answer; 3)

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<https://www.fcc.gov/document/report-order-updating-hearing-aid-compatibility-rules> ("2010 HAC R&O").

<sup>9</sup> American National Standards Institute, ANSI PINS Process: An Informative Summary (2013), [https://share.ansi.org/Shared%20Documents/Standards%20Activities/American%20National%20Standards/Procedures,%20Guides,%20and%20Forms/PINS Informational Summary January 2013.pdf](https://share.ansi.org/Shared%20Documents/Standards%20Activities/American%20National%20Standards/Procedures,%20Guides,%20and%20Forms/PINS%20Informational%20Summary%20January%202013.pdf).

<sup>10</sup> 2010 HAC R&O, 32 FCC Rcd. at 9073, ¶ 22.

dropped/disconnected calls; 4) service outages; and 5) usage data,<sup>11</sup> and now seeks comment on these goals and measures in the FNPRM.<sup>12</sup> While we agree with the Commission that both transcription speed and usage data can be considered in the context of other metrics,<sup>13</sup> the Commission should adopt additional performance standards for speed of answer, dropped/disconnected calls, and service outages.

**A. The Commission should adopt stringent speed of answer standards.**

The Commission seeks comment on whether to strengthen the speed-of-answer standards for telephone captions.<sup>14</sup> Current Commission rules provide a metric of 85% of all captioned calls being answered within 10 seconds of a user's initiation of contact with the captioning center, self-measured on a daily basis and self-reported monthly in call detail reports.

The Commission should adopt a stringent standard requiring a response time pegged to the maximal speed allowable with available call completion and routing technology. During the COVID-19 pandemic, while the Commission has loosened the current speed of answer requirements,<sup>15</sup> consumers are waiting upwards of 90 seconds to be connected to an IP CTS provider. In many situations, such as when a consumer is calling emergency services, such a delay is not only unacceptable but potentially life-threatening. Even in

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<sup>11</sup> *Misuse of Internet Protocol (IP) Captioned Telephone Service; Telecommunications Relay Services, and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Declaratory Ruling, Further Notice of Proposed Rulemaking, and Notice of Inquiry, CG Docket Nos. 13-24, 03-123, 33 FCC Rcd at 5870–74, ¶¶ 164–176 (June 8, 2018).

<sup>12</sup> 2020 FNPRM, 35 FCC Rcd. at 10,898, ¶ 66

<sup>13</sup> *See id.* at 10,902, ¶ 80.

<sup>14</sup> *Id.* at ¶ 79.

<sup>15</sup> *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Structure and Practices of the Video Relay Service Program*, CG Docket Nos. 03-123 and 10-51, Order (Feb. 18, 2021), <https://docs.fcc.gov/public/attachments/DA-21-195A1.pdf> (preceding waivers omitted).

non-emergency situations, a delay greater than one second can create a variety of challenges. One such challenge is interacting with voice operated calling menus, where delays may result in timeouts, hang-ups, and related barriers.

**B. The Commission should adopt standards for dropped/disconnected calls and service outages.**

The Commission seeks comment on whether the minimum standards should be modified to provide specific and quantified performance standards for service outages and dropped/disconnected calls.<sup>16</sup> While Commission rules currently require all Internet-based TRS providers to notify the Commission in the event of an unplanned service outage of any duration,<sup>17</sup> the Commission should further modify the minimum standards to prohibit more than a de minimis number of calls being dropped or disconnected and more than one service outage in a thirty-day period.

Dropped and disconnected calls and service outages adversely impact the consumer experience by making IP CTS service inaccessible and non-functional. As such, the frequency of these events must be monitored to ensure an adequate experience on the part of the consumer by keeping dropped calls and outages to a minimum. While we understand this may not entirely fall under the control of service providers, we urge the FCC to ensure IP CTS providers are controlling these outages to the extent they are able and to provide further regulations for carriers or other entities that may also be involved. As further discussed below, the Commission should also ensure that consumers have access to data regarding dropped calls or service outages to allow for informed decision making when selecting a service.

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<sup>16</sup> 2020 FNPRM, 35 FCC Rcd. at 10,902-03, ¶ 81.

<sup>17</sup> See 47 C.F.R. § 64.606(h)(3).

**III. The Commission should utilize an ANSI-accredited body to determine testing and measurement methodologies.**

The Commission seeks comment in the FNPRM on immediately establish testing and measurement methodologies, and sets forth the following guidelines for comment:

1. Testing should employ a reasonable sample size;
2. Test calls should mimic the proper use of the service;
3. Test calls should follow the structure of a natural telephone conversation;
4. Test calls should not be detectable as test calls; and
5. Testing should be designed to evaluate service performance over a range of audio conditions.<sup>18</sup>

We agree with the Commission that IP CTS services should be regularly tested with strict and rigorous procedures to ensure consumer protection.<sup>19</sup> The guidelines offered by the Commission are an excellent starting point for determining testing methodologies.<sup>20</sup>

However, we again recommend the Commission utilizes an ANSI-accredited body to determine the appropriate testing and measurement methodologies to best satisfy these guidelines. Any methodologies used to assess provider performance must be objective, quantifiable, repeatable, and verifiable. Due to the complex and detailed nature of these tests and services, using an ANSI-accredited body will provide consumers and service providers with the most accurate, fair, and comprehensive testing and measurement methodologies.

**A. The Commission should utilize an ANSI-accredited body to determine the testing methodologies.**

Consumers rely on the accuracy and speed of IP CTS services. This is particularly important in emergency or informative situations. While using these services to call 911,

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<sup>18</sup> 2020 FNPRM, 35 FCC Rcd. at 10,903, ¶ 83.

<sup>19</sup> *Id.* at 10,897, ¶ 64.

<sup>20</sup> *Id.* at 10,903, ¶ 83.

to receive a telephone call about school closures, or to set up a medical appointment, consumers should be able to have confidence that the service will be accurate, reliable, and usable—i.e., that the service provides consistent quality compliant with the Commission’s adopted performance requirements. By utilizing strict and rigorous testing, the Commission can ensure that consumers will have access to useful and accurate services.

Testing is meaningless, however, if the testing methodologies fail to actually assess whether the services meet the consumers’ quality needs. The testing process will inherently be complicated and detailed; thus, testing methodologies should not be arbitrarily adopted. By using an ANSI-accredited body to research and determine the proper methods to conduct testing, the final testing procedure will be fair and comprehensive.

The testing guidelines proffered by the Commission asks for comment on testing metrics that no interested party currently has the means or knowledge to fully recommend. Without proper research, it is not clear precisely what degree or frequency of testing is sufficient to determine if the services meet the adopted performance requirements. An ANSI-accredited body will best be able to impartially determine particularized rules for testing. Such a body will be able to conduct the necessary research to determine the best testing methods to ensure that the metrics actually prove that the service providers ensure a proper consumer experience.

Finally, because consumer needs do not change depending on whether a human or artificial intelligence transcriber is used, the Commission should not create separate methodologies for different types of providers. Rather, all providers, regardless of process employed, must be held to the same testing standards determined by the ANSI-accredited body.

**B. Adopted metrics and testing should be required for all IP CTS providers.**

Consumers care about whether or not the IP CTS services adequately meet their needs. If IP services are subpar, it does not matter to the consumer if the Commission has created voluntary standards, whether the service is provided by human or automatic speech recognition, or whether the Commission requires some particular type of testing. Any adopted performance standards and testing should be mandatory for every IP CTS service provider.

**C. The Commission should implement a comprehensive enforcement regime.**

Mandatory metrics and testing are only helpful to consumers if service providers find it worthwhile to comply with these requirements. For this industry, it is unlikely that the market will push poor-quality providers out. This is a relatively small industry with a limited number of providers; competition is not robust and thus, it is likely that market failures will occur resulting in subpar service. If the consumer cannot find a provider that meets their needs, they likely will be forced to use subpar services.

If consequences for failing to meet the standards are negligible, service providers may find it profitable to provide subpar service. Creating strong metrics and testing procedures will not serve the public interest if the Commission then lacks the ability to meaningfully enforce compliance. To ensure that service providers have appropriate incentives to comply with the metrics, the Commission should adopt a penalty regime with consequences for failing to meet metric requirements that increase in severity if the provider does not fix a deficiency.

The Commission should also retain the right to decertify the provider. As service providers rely on certification as a pillar of their business model, decertification is the ultimate leverage to compel providers to provide adequate service to consumers.

**IV. The Commission should utilize an independent testing body to conduct all testing to measure service quality.**

The Commission seeks comment regarding which organizations should be allowed to test IP CTS services.<sup>21</sup> We agree with the Commission that relying on self-reporting and self-measurement to assess caption accuracy and delay is not practicable.<sup>22</sup> To prevent any undue bias or influence, the Commission should utilize an independent testing body. Further, the Commission seeks comment on the publishing of testing results.<sup>23</sup> We again agree with the Commission that these results should be published on the Commission's website.<sup>24</sup>

**A. For all testing to be completed in a fair and unbiased manner, the Commission should use an independent testing body.**

To ensure that consumers have access to adequate service, all testing must be free from bias or fraud. Self-reporting and measurement allow service providers opportunities for biased testing and gives them too much power over the testing process.

This problem cannot be solved simply by requiring service providers to hire a third party to conduct the testing.<sup>25</sup> If the providers are able to select and pay for the testing entity themselves, the prospect of bias remains. In such a scenario, the service provider is essentially in control of the testing entity, and thus, the chosen testing entity has a significant financial incentive to conduct inadequate testing.

An independent testing body, however, will furnish service providers with optimal, unbiased testing. Due to its independent nature, this entity will operate in a neutral

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<sup>21</sup> 2020 FNPRM, FCC Rcd. at 10,905, ¶ 86.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 10,906, ¶ 89.

<sup>24</sup> *Id.*

<sup>25</sup> While other industries can properly function with provider-paid testing, the IP CTS industry is unique, and this practice could risk encouraging undue influence, or even cheating, from the providers. To ensure that services are acceptable for consumers, such control should be withheld from service providers.

fashion, testing service providers' adherence to the standards set forth by the ANSI-accredited body without any undue influence. Further, using this entity will ensure that all testing is complete and substantive. This in turn will provide consumers accurate and unbiased information. Finally, an independent testing body would largely mitigate legitimate concerns surrounding cheating. If the testing entity makes its test calls anonymously and unannounced, a service provider will be less likely to have the opportunity to provide service tailored to the test.

**B. Detailed testing results should be publicly available on the Commission's website.**

Any completed testing of service providers should regularly be published on the Commission's website. Every provider's service should be tested once every three to six months. Upon completion and analysis of such testing, the results should be immediately posted on the Commission's website. The Commission should test on-device captioning services, like Google's Live Caption, with the same methodologies and independent testing entity. These results should also be posted on the FCC's website.

In determining which service to use, consumers have limited avenues to determine which provider would best meet their needs. Publishing testing results for all captioning providers, especially from an impartial and independent body, would allow consumers to access a credible and reliable source of information.

For testing results to truly enable consumers to make informed choices, specific information should be disclosed. First, all testing methods should disclose how the metrics were determined. This includes the specific information such as how error rates are calculated, which accents were tested, and what type of interference was added to call, among others.

Second, a detailed, understandable consumer-rating system should be utilized. This is distinct from the common, simple 5-star rating system. IP CTS metrics are too complicated for such a simple rating system to bring real value to consumers. Rather,

different consumers put different values on the same metric. For example, a user with residual hearing may care about delay times and may be content with more extreme errors in the text. However, a user with more significant hearing loss may care much more about large errors, like incorrect words, rather than delay or small errors, like interchanging “to” and “too.”

Because of this complexity, the Commission should adopt a tiered rating system:

- First, consumers should be able to rate the provider’s services overall.
- Second, the consumer should be able to rate specific categories, such as speed, and accuracy.
- Finally, consumers should be given the option to type a written review explaining their rating.

Consumers using IP CTS services have a variety of different needs and priorities; not every consumer looks to the same metrics in determining which service best suits their needs. As such, seemingly minor testing details may drastically impact a consumer’s choice of provider, and it is critical for the Commission to ensure that consumers have the information they need to make informed choices.

Finally, any rating system should be developed and calibrated with human behavior, such as consumer engagement and rating tendencies, in mind. Such a rating system will give consumers access to detailed and accurate information and allow consumers to choose an IP CTS provider that best meets their needs.