

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of:

Misuse of Internet Protocol (IP) Captioned
Telephone Service Structure and Practices of
the Video Relay Service Program

CG Docket No. 13-24

Telecommunications Relay Services and
Speech-to-Speech Services for Individuals
with Hearing and Speech Disabilities

CG Docket No. 03-123

Structure and Practices of the Video Relay
Service Program Misuse of Internet Protocol
Relay Service

CG Docket No. 10-51

**COMMENTS OF THE
CALIFORNIA PUBLIC UTILITIES COMMISSION**

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March 18, 2021

I. INTRODUCTION

On October 2, 2020, the Federal Communications Commission (FCC) released a *Further Notice of Proposed Rulemaking (FNPRM)* proposing and seeking comment on measurable standards and metrics for captioning delay and accuracy in the Internet Protocol Captioned Telephone Service (IP CTS) and Captioned Telephone Service (CTS). The *FNPRM* also invited comment on guidelines for testing telephone captioning services against performance standards and the appropriate entity for carrying out performance measurements.

On February 1, 2021, the *FNPRM* comment due dates were published in the Federal Register. On February 8, 2021, the FCC released a Public Notice to announce comment due dates.

The California Public Utilities Commission (CPUC) supports the FCC's proposal to add captioned telephone performance standard metrics and the testing guidelines to the Telecommunications Relay Service (TRS) Minimum Standards. Many hard-of-hearing users depend on this vital communication service and have advocated to improve the quality of service and performance standards for consistency and functional equivalence.

The CPUC manages a dual-party relay system known as California Relay Service (CRS), one of three components of its Deaf and Disabled Telecommunications Program (DDTP).¹ DDTP is administered and operated by the CPUC with advisory

¹ See, Cal. Pub. Util. Code § 2881, which directs the CPUC to provide: (a) telecommunication devices to certified deaf and severely hearing-impaired users; (b) a dual-party relay system, now called the

input from two consumer advisory boards: the Telecommunications Access for the Deaf and Disabled Administrative Committee (TADDAC) and the Equipment Program Advisory Committee (EPAC). Committee members provide input regarding the telecommunications equipment and relay services for Californians who are certified as having limitations of seeing, hearing, speaking, remembering, or moving.

As part of their advisory function, the DDTP committees have expressed continued frustration by the hard-of-hearing and disability community about the lack of consistency in captioned telephone service. User experience has greatly varied from call to call in accuracy and delays. Based on this feedback, the CPUC recommends the FCC establish robust captioned telephone performance metrics and independent test procedures, and publish test results to further enhance quality of service for IP CTS and CTS.

The CPUC submits these comments in response to the *FNPRM* regarding quantifiable measurement of the quality of service for IP CTS and CTS. Silence on other issues connotes neither agreement nor disagreement.

California Relay Service (CRS), to connect TTY users with any other telephone user and uses third-party intervention to provide 24-hour contact with any other telephone subscriber; (c) specialized telecommunications equipment to individuals certified with hearing, vision, speech, cognitive, and mobility disabilities through the California Telephone Program (CTAP); and (d) Speech Generating Devices (SGDs) as a funder of last resort and added Speech Language Pathologists (SLPs) as DDTP certifying agents.

II. DISCUSSION AND RECOMMENDATIONS

A. Adding IP CTS/CTS Metrics to Minimum TRS Standards

1. Caption Delay

In the *FNPRM*, FCC proposes to amend the minimum TRS standards in two areas: caption delay and caption accuracy.² In considering the minimum standard for caption delay, the FCC first proposes the following definition:

Caption delay is the difference in time (in seconds) between when a word can be heard in the audio and when that word appears in the stream of captions on the caption user’s primary display.³

The FCC seeks comment on how to specify more precisely what is meant by “when [a captioned word] appears” in the transcript or stream of captions. Should such “appearance” be defined as the initial “appearance” of the word (i.e., prior to any correction that may be provided subsequently) or its “final displayed appearance” (i.e., so that the caption delay includes any time involved in providing a corrected version of the word)?⁴

The CPUC supports adding caption delay to the minimum TRS standards for IP CTS and CTS and supports the proposed definition. The CPUC recommends using the “initial appearance” of the word for measuring caption delay as that is the time the user is reading the text of the spoken word. If that causes “undesirable incentive for

² *FNPRM* ¶ 2.

³ *FNPRM* ¶ 68.

⁴ *Id.*

providers to prematurely deliver inaccurate captions,”⁵ it should count against the telephone captioning service in the second metric: Accuracy/Word Error Rate. The FCC should also create an additional metric that measures the final delay (after the word has been corrected). The CPUC agrees that caption delay may vary over the course of a call; thus, we support the FCC’s recommendation for taking the measurement over different sections of the call. Caption delays can be averaged out for each single call.

Finally, the *FNPRM* states that testing of fully automatic telephone captioning indicates it can deliver captions within one or two seconds, on average.⁶ Since the delay measurement will be an average over multiple calls, the CPUC recommends the maximum delay should not be more than 5 seconds.

2. Accuracy

The FCC seeks comment on the maximum average caption delay that should be allowed by our minimum TRS standards. The *FNPRM* proposes—for purposes of measuring compliance with the standard—the following definition of Word Error Rate:

The Word Error Rate for a captioned telephone conversation is (i) the number of word substitutions, omissions, and insertions in the captions divided by (ii) the total number of words in the voice communications being captioned. Accuracy shall be assessed for a caption as delivered to the caption user’s device within the minimum TRS standard for caption delay. A substitution error occurs when a spoken word is replaced with another word, an

⁵ *Id.*

⁶ *FNPRM* ¶ 70.

omission error involves the omission of a spoken word, and an insertion error consists of the addition of a word that has not been spoken.⁷

The CPUC supports the proposed definition.

The FCC seeks comment on whether it is necessary to define what constitutes a “word.”⁸ The CPUC recommends the FCC refrain from listing words as “major” or “minor” as that as such a distinction would be open to interpretation and would obscure and dilute the true word error rate. Sounds like “umm” and “ah” may be left out of the word count. The CPUC suggests the FCC create an additional metric that measures the final Accuracy/Word Error Rate (after the word has been corrected). This final Accuracy/Word Error Rate should match with the final delay statistic.

The CPUC supports the proposal to set an initial Accuracy/Word Error Rate standard as expeditiously as possible based on the current performance of IP CTS providers, as recommended by the Disability Advisory Committee.⁹ As it is the FCC’s intent to “provide more specific standards and metrics for the accuracy of telephone captioning, including fully automatic IP CTS,”¹⁰ it is appropriate to quantify the Word Error Rate to measure compliance with the standard. For example, the CPUC California Relay Service Contract sets forth the following requirement: “The captioned telephone CA shall perform and maintain an average accuracy rate of 98% during the

⁷ FNPRM ¶ 73.

⁸ FNPRM ¶ 74.

⁹ FNPRM ¶ 77, referencing the Disability Advisory Committee Oct 2018 Recommendation.

¹⁰ FNPRM ¶ 72.

provider’s periodic proficiency testing. The captioned telephone CA shall perform and maintain an average error rate of 2% or less during the Provider’s periodic proficiency testing.” The CPUC recommends the FCC adopt a performance standard that captioned conversations be *at least* 95 percent error free—only allowing 5 percent of calls having substitutions, omissions, and insertions.

B. Testing and Measurement Methodologies

The FCC seeks guidance on the following additional guidelines proposed for service quality testing:

1. Sample size (i.e., the number of test calls) should be calculated to provide reliable and accurate information;
2. Test calls should mimic the proper use of the service (e.g., both parties to a call should not be in the same room);
3. Test calls should follow the structure of a natural telephone conversation;
4. Test calls should not be detectable as “test calls” by CAs (e.g., test calls should not start with a loud dual-tone multi-frequency tone followed by live conversation);
5. Testing should be designed to evaluate service performance over a range of telephone audio conditions (e.g., static, distortion, inaudible or unintelligible conversation, and background noises), accents, and dialects that are likely to be encountered by CTS and IP CTS users.¹¹

The FCC also seeks comment on what specific consequences should result if testing shows that a provider is failing to meet the minimum standard for caption delay or accuracy.¹²

¹¹ FNPRM ¶ 83.

¹² *Id.*

The CPUC agrees with the proposed guidelines and recommends the following:

1. Test calls should be conducted using scripts;
2. Scripts should reflect the conversations carried by the specific demographic groups (business, medical and personal calls);
3. Scripts should have various call lengths;
4. Scripts should not be shared with the providers;
5. Test calls should not be detectable by providers and be conducted independent of the providers' knowledge;
6. Sample size of test calls should be sufficient (at least 5-10% of volume) to have significance;
7. Test calls should be conducted during different times of the 24-hour period and weekends;
8. Voice test callers should have varying levels of accents and dialects;
9. Preferably, some CTS test callers should be actual CTS users;
10. Preferably, some CTS test calls should be in Spanish.

If testing shows that a provider is failing to meet the minimum standard for caption delay or accuracy, both the provider and the program manager should be able to view the performance metrics. The program manager can make a choice at that point to change to another provider if they have that option. Alternatively, the provider may be given an opportunity to cure the problem within a certain timeframe. Withholding would begin if the problem cannot be cured within the designated period.

C. Responsibilities for Measuring Service Quality

The FCC concludes that it would not be practicable to rely on provider self-measurement and reporting. The FCC seeks comment on whether testing would be most effectively and reliably performed by the FCC or by an entity selected and

supervised by the providers themselves, through some type of joint undertaking. The FCC seeks comment on whether the testing results should be made public.¹³

The CPUC concurs with FCC's conclusion that it is not judicious to let providers measure and provide their own performance metrics. The lack of transparency and neutrality in this measurement is problematic and carries no significant assessment value. The CPUC recommends that the FCC or another third-party entity the FCC appoints perform the testing. To ensure neutrality of the assessment, it is vital that the testing be done independently without the knowledge of the providers. This will foster the much-needed consistency and quality standards that thousands of the users are anticipating.

The CPUC agrees with the FCC that the results of the testing and measurement of IP CTS and CTS providers' performance—both in the aggregate and for individual providers—be made available to the public on a regular basis through annually updated reports on the FCC's website.¹⁴ This will enable users to assess an individual provider's performance when considering their provider of choice. Adding such transparency will also encourage providers to maintain a high level of service.

III. CONCLUSION

The CPUC supports the FCC's vision to propose quantifiable measurements to address the ongoing quality-of-service issues raised by the users of IP captioned telephone service and captioned telephone service. We appreciate the opportunity to

¹³ *FNPRM* ¶ 87.

¹⁴ *FNPRM* ¶ 89.

provide input to the FCC. We also look forward to our cooperation with the FCC to set up measurable standards and metrics for captioning delay and the subsequent accuracy in IP CTS and CTS.

Respectfully submitted,

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