

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
	)	CG Docket No. 05-231
Closed Captioning of Video Programming	)	
	)	
Telecommunications for the Deaf and Hard	)	PRM11CG
of Hearing, Inc.	)	
Petition for Rulemaking	)	

**ELECTRONIC NEWSROOM TECHNIQUE CAPTIONING  
PROGRESS REPORT**

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**I. INTRODUCTION AND SUMMARY**

The National Association of Broadcasters (“NAB”)<sup>1</sup> submits this Progress Report pursuant to Federal Communications Commission (“FCC” or “Commission”) rule 79.1(e)(11)(v).<sup>2</sup> NAB has expended considerable time and resources, and coordinated closely with the Consumer Groups, to provide the Commission with a report on NAB’s members’ “experiences” with implementing Enhanced Electronic Newsroom Technique

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<sup>1</sup> NAB is a nonprofit trade association that advocates on behalf of radio and television stations and broadcast networks before Congress, the FCC and other federal agencies and the courts. This Report reflects collaboration with Telecommunications for the Deaf and Hard of Hearing, Inc. (“TDI”), the National Association of the Deaf (“NAD”), the Hearing Loss Association of America (“HLAA”), and the Technology Access Program at Gallaudet University (“TAP”) (collectively, “the Consumer Groups”). The Consumer Groups intend to file a separate report with the Commission.

<sup>2</sup> 47 C.F.R. § 79.1(e)(11)(v); see also *Closed Captioning of Video Programming; Telecommunications for the Deaf and Hard of Hearing, Inc., Petition for Rulemaking*, CG Docket No. 05-231, Order, 30 FCC Rcd 6477 (June 25, 2015) (extending the deadline for the Progress Report to October 28, 2015).

“Enhanced ENT”), “and the extent to which they have been successful in providing full and equal access to news programming” over the past fifteen months.<sup>3</sup> In sum, stations acted swiftly to implement the new rules once they became effective on June 30, 2014,<sup>4</sup> and have made significant progress in closing the “gaps” in captioning of breaking news, live on-location reporting, weather, and sports. At the same time, caption users continue to voice dissatisfaction with the overall quality of captioning, whether live or ENT, citing dropped captions and problems with accuracy, synchronicity and placement, and a disparity in quality between captions provided in local and network programming, respectively.<sup>5</sup> This Progress Report is the result of a cooperative dialogue and a continuing effort by NAB to work closely with the Consumer Groups to assess and improve Enhanced ENT execution.

The information provided herein was obtained in a number of ways, with NAB and the Consumer Groups working collaboratively throughout the process. Each conducted a jointly-created formal survey: NAB surveyed television stations that may permissibly utilize ENT about their implementation of the best practices (“the NAB Survey,” provided as Attachment A), while the Consumer Groups polled deaf or hard of

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<sup>3</sup> 47 C.F.R. § 79.1(e)(11)(v); *Closed Captioning of Video Programming; Telecommunications for the Deaf and Hard of Hearing, Inc., Petition for Rulemaking*, CG Docket No. 05-231, PRM11CG, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 2221 ¶ 82 (Feb. 24, 2014) (“2014 Enhanced ENT Order”).

<sup>4</sup> 47 C.F.R. § 79.1(e)(11)(i) (permitting broadcast stations other than the major network broadcast television affiliates in the top 25 Designated Market Areas (“DMAs”) to utilize Enhanced ENT “to provide closed captioning for live programming or programming originally transmitted live”).

<sup>5</sup> It is important to note that this Progress Report is not focused on caption quality in general, but is specifically focused on how Enhanced ENT—as it is used in certain markets—has improved access to critical local news programming.

hearing television viewers in ENT-permissible markets about their captioning experiences (“the Consumer Group Survey,” provided, with the permission of the Consumer Groups, as Attachment B). In addition, NAB interviewed personnel from stations across the country to obtain supplemental information about Enhanced ENT implementation and, in some cases, the voluntary phase-in of live captioning in ENT-permissible markets.<sup>6</sup> Station financial information is drawn from NAB’s *Television Financial Report*.<sup>7</sup>

Having shared the results of their surveys, representatives from NAB and the Consumer Groups met at length to view and discuss clips of local news programming produced by a variety of station groups in small and medium markets across the country, some utilizing real-time captioning and others Enhanced ENT.<sup>8</sup> Our candid discussion focused on evaluating the progress that has occurred, the benefits and drawbacks of each captioning method, and areas for improvement. The meeting resulted in a renewed commitment from all stakeholders to engage in continuing

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<sup>6</sup> NAB conducted informal interviews with station personnel responsible for captioning so as to supplement information obtained and answer questions raised by responses to the NAB Survey. Because NAB wanted candid answers from its members, including about any shortcomings in a station’s Enhanced ENT implementation, NAB agreed not to attribute responses to any television broadcaster or its licensee. Certain information contained in this Progress Report not cited to the NAB Survey is based on the substance of those interviews.

<sup>7</sup> National Association of Broadcasters, *Television Financial Report* (2014).

<sup>8</sup> While the clips the group viewed (which included anchor dialogue, live shots, sports and weather) were not a statistically valid random sample, NAB and the Consumer Groups worked together to obtain video from a wide cross-section of group owners and market sizes, and to avoid any ability on the part of the participating broadcaster to submit its “best work.” The clips included examples of both ENT and live captioning from ENT-permissible markets, including Rochester, NY and San Antonio, TX, each of which has a significant deaf or hard of hearing population.

dialogue to arrive at solutions that adequately address concerns identified in the Consumer Group Survey and further enhance caption users' viewing experience while preserving stations' ability to provide local news.

Based on the results of the NAB and Consumer Group Surveys, NAB's follow up discussions with broadcasters, and feedback from the Consumer Groups, it is NAB's view that: (1) since adoption of the Enhanced ENT rules eighteen months ago, the cost considerations and challenges associated with securing real-time captioners have not changed and continue to make live captioning of local news difficult for broadcasters in medium and small markets, as well as for non-major network affiliated stations in the 25 largest markets; (2) news programming still presents significant challenges for automated speech recognition technology; (3) the majority of broadcasters in ENT-permissible markets have implemented and are abiding by the Enhanced ENT Best Practices, including closing many, but not all, of the captioning "gaps"; (4) even in markets where Enhanced ENT is permissible, a number of larger station groups have voluntarily moved to live captioning as they are able to afford and procure it; (5) while the amount of local news content captured by ENT has vastly increased, there is a continuing need to evaluate additional opportunities for scripting, to improve weather reporting summaries, and to find technological solutions that would improve display and pacing of ENT captions; and (6) while live captioning could fill remaining gaps in local news programming, the real-time captioning services available to newsrooms in small and medium markets continue to present significant challenges in terms of cost as well as accuracy, synchronicity, and placement.

This Progress Report by no means marks the end of discussions between NAB and the Consumer Groups, nor do broadcasters view it as the end of their commitment to continue to improve access to their news and other programming. Accordingly, NAB proposes certain next steps and informs the Commission that each stakeholder has committed to ongoing discussion and cooperation with the common goal of finding practical ways to maximize the accessibility of local news programming for caption users. While real-time and Enhanced ENT captioning each have certain benefits and drawbacks, NAB believes that advancements in technology, such as voice recognition, provide the best solution to enable broadcasters to offer caption users the functional equivalency of what is presented in the audio of local news programming. Unfortunately, over the short period the Enhanced ENT rule has been in effect, no preferable technological solution has come to market, and the challenges associated with securing qualified real-time captioners continue to make live captioning of local news difficult for many broadcasters. Therefore, NAB respectfully submits that the rationale behind permissive use of Enhanced ENT remains strong, and that the public interest would not be served by the Commission extending at this time the requirement for real-time captioning to all broadcasters regardless of market size and network affiliation.

## **II. BACKGROUND**

ENT is a closed captioning technology used by certain broadcasters to caption local news programming. ENT converts the dialogue included in a teleprompter script into captions. In the *1997 Closed Captioning Report and Order*,<sup>9</sup> the Commission

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<sup>9</sup> *Closed Captioning and Video Description of Video Programming*, MM Docket No. 95-176, Report and Order, 13 FCC Rcd 3272 ¶ 18 (Aug. 22, 1997) (“*1997 Closed Captioning Report and Order*”).

allowed the use of ENT in some markets for the captioning of newscasts and other live programming—for purposes of meeting the captioning benchmarks—both to permit flexibility in the methods used to create closed captions and to address the record’s conflicting accounts as to the number of available real-time captioners. Primarily because of the state of ENT technology at the time, only limited, scripted, in-studio portions of newscasts were captioned, leaving live interviews, late-breaking weather reports, and other typically unscripted material inaccessible. As a result, in 2011, the Consumer Groups petitioned the Commission to eliminate all use of ENT captioning.<sup>10</sup>

Having brought the stakeholders together in 2013 and 2014 for in-depth discussions about practical and technological solutions, the Commission adopted new guidelines designed to increase the amount of programming content captured by ENT.<sup>11</sup> Specifically, under the Enhanced ENT rules, a broadcast station that chooses to use ENT rather than live captioning (where permissible) will be deemed in compliance with the Commission’s rules if the station employs the following best practices:

- In-studio produced news, sports, weather, and entertainment programming will be scripted.
- For weather interstitials where there may be multiple segments within a news program, weather information explaining the visual information on the screen and conveying forecast information will be scripted, although the scripts may not precisely track the words used on air.
- Pre-produced programming will be scripted (to the extent technically feasible).
- If live interviews or live on-the scene or breaking news segments are not scripted, stations will supplement them with crawls, textual information, or other means (to the extent technically feasible).

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<sup>10</sup> TDI *et al.* Petition for Rulemaking, CG PRM-11 (January 27, 2011).

<sup>11</sup> 2014 Enhanced ENT Order ¶¶ 71–87.

- The station will provide training to all news staff on scripting for improving ENT.
- The station will appoint an “ENT Coordinator” accountable for compliance.

In sanctioning these best practices, the Commission stated its belief that “this approach will serve the public interest, as it will both ensure the continuation of local newscasts while requiring that enhancements be made to ENT that are consistent with Congress’s objective to provide full access to television programming by people who are deaf and hard of hearing.”<sup>12</sup> Further, the Commission required broadcasters to prepare and submit a report on the implementation of these new measures, and the extent to which they have been successful in providing full and equal access to news programming.<sup>13</sup> Incorporating meaningful input from both the television broadcast industry and the Consumer Groups, this Progress Report is submitted to satisfy that requirement.

### **III. THE RATIONALE FOR PERMITTING CERTAIN TELEVISION STATIONS TO UTILIZE ENHANCED ENT FOR LOCAL NEWS BROADCASTS REMAINS VALID**

The Commission should evaluate permissive continued use of Enhanced ENT in the context of the marketplace factors that influenced its decision in February 2014. Put simply, the cost considerations and challenges associated with securing real-time captioning for ENT-eligible broadcasters remain unchanged. High costs and the lack of available captioners continue to make live captioning of local news difficult if not impossible for broadcasters in small and medium markets and for non-major network

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<sup>12</sup> *Id.* ¶ 80.

<sup>13</sup> *Id.* ¶ 82; *see also* 47 C.F.R. § 79.1(e)(11)(v).

affiliated stations in large markets. NAB's members affirm that extending the requirement for real-time captioning beyond network affiliates in the Top 25 DMAs could result in staff cuts, diminished newsgathering capabilities, and fewer local newscasts. Interestingly, what has changed is that the Commission implemented rules governing the quality of captioning. Given persistent problems with human error in live captioning, some broadcasters suggest that ENT, in conjunction with the enhanced guidelines, may be the preferred choice to serve caption users and comply with the rules governing captioning accuracy and synchronicity.

**A. Real-Time Captioning Services Remain Expensive and Scarce**

The cost of real-time captioning remains high. The NAB Survey suggests that the vast majority of broadcasters using ENT that have investigated real-time captioning arrangements have opted to continue with ENT captioning, in large part because of the high cost of shifting to live.<sup>14</sup> Per hour of programming, broadcasters estimate and report (in the case of broadcasters who utilize both real-time captioning and Enhanced ENT) that live captioning costs are steep: 24.8% of broadcasters report that real-time captioning costs \$70-\$80 per hour, 22.4% report \$81-\$90 per hour, 12.1% report \$91-\$100 per hour, and 21.7% report more than \$100 per hour.<sup>15</sup> Only 7.5% of broadcasters report that real-time captioning costs less than \$70 per hour.<sup>16</sup> These costs are especially prohibitive in light of the sizable amount of original news programming that many broadcasters produce, regardless of market size. A vast

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<sup>14</sup> 91.6% of broadcasters cited cost as a primary reason that they have chosen to use Enhanced ENT to comply with the FCC's captioning regulations.

<sup>15</sup> *NAB Survey* at 9.

<sup>16</sup> *Id.*

majority of the broadcaster respondents—84.2%—produce more than twenty hours of original news programming each week.<sup>17</sup> When asked to provide information about the current cost of ENT, the estimated hourly cost of real-time captioning, and the quantity of programming delivered, seven-in-ten stations indicated that switching from ENT to real-time captioning would add a minimum of \$100,000 to their news budgets. Some station groups have opted to phase-in live captioning over time. Others that made the shift receive state grant money, and explain that they would have been unable financially to implement real-time captioning but for those outside funds.

Not only is the cost of real-time captioning high, but it is also relatively fixed across markets and station size. That is, the cost to an individual station is generally the same regardless of market size and irrespective of scalability. A small market television station with a proportionately smaller budget pays the same amount for live captioning as a station in a larger market with greater revenue. Moreover, even large entities that own multiple stations nationwide report that they have been unable to negotiate reduced prices for captioning services given short supply and high demand.

Setting aside the question of cost, it remains unclear whether there are sufficient numbers of captioning providers, even without regard to their quality, to satisfy demand for live captioning should the Commission prohibit continued ENT use. For example, broadcasters in smaller markets report that few captioners, nonetheless quality captioners, are available.<sup>18</sup> Given the Commission's quality rules, this creates a new

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<sup>17</sup> *Id.* at 10. Another 8.7% of respondents originate between 11 and 20 hours of non-repeat, news programming each week, meaning that well over 90% of stations originate more than 10 hours of local news. *Id.*

<sup>18</sup> *Id.* at 8.

dilemma for stations. As the NAB Survey indicates, 21.4% of stations noted that they utilize Enhanced ENT to comply with the FCC’s captioning regulations based in part on a lack of qualified captioners.<sup>19</sup> Thus, while live captioning may be preferable for caption users in one sense because it may better capture the audio of live, late-breaking and ad-libbed programming, it may not be superior to ENT from an overall quality standpoint.

In sum, the persistent shortages of qualified captioners challenge the ability of even the top captioning companies to deliver high-quality live captioning service, despite increasing demand (including for a whole host of programming other than local news).

**B. A Real-Time Captioning Requirement Would Disserve the Public Interest by Reducing the Amount of Available Local News Programming, Particularly in Small and Medium Markets**

The cost of implementing real-time captioning in all markets and for all stations is not outweighed by the benefits of live captioning, given its inherent shortcomings (as discussed herein), the improvements already made through Enhanced ENT, and the commitment of stakeholders to make continued improvements. Moreover, the risk to stations’ continued ability to serve the public with local news programming remains high and real. In 2014, the FCC agreed that “the public interest would not be served were television stations required to cut back on local news programming.”<sup>20</sup> Nothing has occurred since 2014 that alters this conclusion.

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<sup>19</sup> *Id.* at 7.

<sup>20</sup> 2014 *Enhanced ENT Order* ¶ 77.

The news budgets of small and medium market broadcasters cannot withstand the cost of real-time captioning without reducing the quantity and quality of original news programming. Currently, the vast majority of broadcasters who permissibly utilize Enhanced ENT—84.2%—originate over 20 hours of news programming per week.<sup>21</sup> Whereas stations in the top 90 markets generally dedicate approximately one quarter of their budgets to producing local news programming,<sup>22</sup> the actual dollar amounts that those percentages represent vary dramatically between the top markets and the remainder. For example, an average of all network affiliate and independent broadcasters indicates that stations in the top 10 DMAs spend \$9,495,000 annually on their news departments, stations in DMAs 11-20 allocate an average of \$5,237,930, and stations in DMAs 21-30 spend an average of \$5,025,790 per year.<sup>23</sup> Compare this to the dollar amount spent on news in the smaller markets: markets 31-40 drop to \$3,621,855,<sup>24</sup> markets 41-80 budget in the \$2,000,000 range,<sup>25</sup> and markets 81-90 show an even more significant drop, to \$1,459,446.<sup>26</sup> Beyond the Top 90 DMAs, broadcasters tend to reduce the percentage of their overall budget dedicated to news

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<sup>21</sup> *NAB Survey* at 10.

<sup>22</sup> See National Association of Broadcasters, *Television Financial Report*, at 5, 7, 9, 11, 13, 15, 17, 19, 21 (2014) (26.5% for markets 1-10, 26.1% for markets 11-20, 27.1% for markets 21-30, 25.2% for markets 31-40, 24.9% for markets 41-50, 23.5% for markets 51-70, 26.8% for markets 71-80, and 22.8% for markets 81-90).

<sup>23</sup> *Id.* at 5, 7, 9.

<sup>24</sup> *Id.* at 11.

<sup>25</sup> *Id.* at 13, 15, 17, 19.

<sup>26</sup> *Id.* at 21.

from approximately one quarter to one fifth or less.<sup>27</sup> The dollar amount that these smaller market broadcasters expend to serve their communities with local news is understandably less, as their revenues are much lower: markets 91-120 spend, on average, in the \$1,000,000 range annually,<sup>28</sup> whereas markets 121-130 drop to \$893,460 per year,<sup>29</sup> and markets beyond the top 175 spend \$461,068 per year.<sup>30</sup> While a news budget of over \$9 million may fairly readily absorb the high cost of real-time captioning, which averages between \$200,000 and \$300,000 annually for a station providing several hours of news programming daily, those stations with more limited budgets in small and medium markets simply cannot.<sup>31</sup>

News programming is, in all markets, an expensive proposition. Relatively speaking, in small markets, \$200,000 represents a significant percentage of the entire news budget. Indeed, as one small market broadcaster suggested, it equates to the salary of nine journalists. In any event, the fact remains that elimination of permissible ENT use would force many stations to cut back on local news programming, or abandon

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<sup>27</sup> *Id.* at 23, 25, 27, 29, 31, 33 (20.1% for markets 91-100, 20.9% for markets 101-110, 20.8% for markets 111-120, 20.4% for markets 121-130, 20.9% for markets 131-150, 19.9% for markets 151-175, and 15.1% for markets 176+).

<sup>28</sup> *Id.* at 23, 25, 27.

<sup>29</sup> *Id.* at 29.

<sup>30</sup> *Id.* at 35.

<sup>31</sup> The FCC in fact has previously recognized that smaller markets are generally “less able to support” multiple local television news operations. *2010 Quadrennial Regulatory Review*, MB Docket No. 09-182, Notice of Proposed Rulemaking, 26 FCC Rcd 17489 ¶ 53 (Dec. 22, 2011). The FCC also has recognized that independent stations, even in the top 25 markets, experience considerable “economic difficulties.” *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission’s Rules*, CS 98-120, Third Report and Order, 22 FCC Rcd 21064 ¶ 55 & n.192 (Nov. 30, 2007).

it altogether. Concerns about continued dissatisfaction with captioning evidenced by the Consumer Groups Survey notwithstanding, NAB believes that the better course is to remedy problems through continued discussion, targeted efforts, and encouraging improvements in technology, not through imposing additional burdens that would jeopardize the provision of local news programming to all viewers, including the deaf and hard of hearing community.

**C. Speech Recognition Technology Has Not Yet Advanced to the Point Where It Is a Viable Alternative for Captioning Local News**

As NAB has noted to the Commission previously, it has been involved in VoxFrontera, Inc., an automated captioning research initiative. VoxFrontera has been working for eight years to develop an automated speech recognition technology (ASR) that can process captions continuously in real time. VoxFrontera has learned, however, that captioning news is one of the more difficult challenges for ASR. News audio originates in a wide range of environments—from nearly pristine (in-studio) to taxing (live, on-scene) to hostile (weather emergencies). Speakers may be highly trained, on-air talent with mainstream syntax, vocabulary, and neutral accents. Or they may be interviewees for whom English is a second language. Or a reporter who speaks in a regional dialect with different vocabulary. Or a person experiencing emotional distress. Moreover, written English and spoken English are essentially two different languages. They have very different syntax and vocabularies, and news programming typically oscillates from one to the other without necessarily offering clear cues to denote the transition.

Thanks to increased investment in this sector by big technology firms such as Google, Apple, and Microsoft, the extremely sluggish progress in ASR over the last 20

years has hastened. Through the use of a new artificial intelligence tool called “deep learning,” error rates for certain uses, primarily small vocabulary command and control and directed search, have improved significantly in the last 4-5 years. Even this improvement has required vast computational resources and connection to the cloud, and ASR performance in difficult noise environments and with speaker variability still declines drastically. Most importantly, for purposes of the generation of automated captions, the current ASR technology still struggles with accurately segmenting continuous speech and works best in contexts where there are clear breaks.

The bottom line is that while ASR may ultimately present a viable means through which to provide a “functional equivalent” of the audio in local news programming for caption users, it is not currently a viable alternative to Enhanced ENT.

#### **IV. ADOPTION OF ENHANCED ENT BEST PRACTICES HAS PROVIDED CAPTION USERS WITH INCREASED ACCESS TO LOCAL TELEVISION NEWS PROGRAMMING, BUT THERE IS STILL ROOM FOR IMPROVEMENT**

##### **A. Broadcasters Have Widely Adopted the Enhanced ENT Best Practices**

Broadcasters take their obligation to deliver high-quality local news to all viewers seriously, and they remain committed to improving access to local news for deaf and hard of hearing viewers. As pledged to both the Commission and the Consumer Groups, once the Enhanced ENT rules were adopted, NAB conducted broad outreach to station members and their FCC counsel. In addition to preparing counsel memos and numerous member alerts targeted toward station owners, managers and engineers, NAB produced a training webinar that featured Karen Peltz Strauss, Deputy Bureau Chief of the Commission’s Consumer and Governmental Affairs Bureau, in addition to NAB staff and other lawyers well-versed in the accessibility rules. NAB also worked with

the Federal Communications Bar Association (FCBA) to facilitate a seminar designed to educate media attorneys about the new rules and encourage them to train their television station clients, and coordinated with State Broadcasters Associations to further inform the industry.

Based on the results of the NAB Survey, it appears that broadcasters utilizing ENT captioning are almost universally aware of and have adopted the Enhanced ENT Best Practices. The vast majority of survey respondents—95%—indicate that they pre-produce programming whenever possible, and 95.7% script substantially all in-studio programming, including weather and sports.<sup>32</sup> Close to 95% of respondents also report that they supplement non-scripted live programming or breaking news through the use of crawls, textual information, or other means.<sup>33</sup> Most stations also have adopted training and coordination best practices: 93.5% have increased training on scripting to improve ENT, and 90.4% have assigned an in-station ENT coordinator.<sup>34</sup> In total, more than 90% of stations that use Enhanced ENT to caption local news indicate compliance with all five of the Best Practices.<sup>35</sup>

**B. Enhanced ENT Has Increased the Quantity of Captioned Content in Local Newscasts**

As the Commission's *Order* stated, because ENT often left portions of live newscasts uncaptioned, it was not viewed as capable of providing the "functional equivalent" of the audio portion of television programming. The information NAB has

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<sup>32</sup> *NAB Survey* at 5.

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

gleaned through its survey and supplemental interviews with television station personnel indicates that, by drawing on improved ENT technology and implementing new protocols, stations have managed to “fill many, if not most, of the gaps that [traditional] ENT practices often le[ft].”<sup>36</sup> In its *2014 Enhanced ENT Order*, the Commission highlighted the lack of captions in “sports and weather updates, on-the-spot field reporting, interviews and dialogue between anchors.”<sup>37</sup> NAB members generally report that, whereas previously only about half of the content of a local newscast might be scripted, now approximately 95% of the content contained in a local newscast is captured by ENT (in some instances, stations have reported that “gap” to be as little as 2 minutes in a 30 minute newscast). Stations have modified their work flows so that the bulk of the dialogue among the anchors is scripted, so that sports reports are scripted, and so that journalists reporting live from the field send a script back to the studio just prior to air time. While much weather reporting is inherently fluid, meteorologists are providing summaries that capture the forecast for caption users. Most report that gaps remain in spontaneous “anchor banter,” during live interviews, and in certain breaking news situations where there is neither time nor technology to facilitate sending a script back to the studio before going live.

As the Commission noted in adopting the rules, breaking news often involves evolving situations. Many stations report that, under these circumstances, their Enhanced ENT protocol involves including some of the basic facts in the anchor script before the story is sent to the reporter in the field. For example, “there is a five alarm

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<sup>36</sup> *2014 Enhanced ENT Order* ¶ 78.

<sup>37</sup> *Id.* ¶ 76.

fire, report of people trapped, police and fire are on the scene, WXYZ reporter joins us now live from downtown Small Market." Where stations cover this live breaking news multiple times within the newscast, they generally provide additional scripting that is captured through ENT, and this script is updated as necessary. Importantly, stations continue to supplement Enhanced ENT with real-time captioning when disseminating information about emergency situations.<sup>38</sup>

Stations also report that live in-studio interviews are a part of local news programming, particularly during morning shows. These interviews present additional challenges. If there is a guest live in-studio, stations generally include information on the guest and topic in text or crawls in the lower third of the screen. Where an interview or segment is pre-recorded, it is transcribed and scripted in the prompter for captioning.

### **C. Certain Television Stations in ENT-Permissible Markets Have Moved to Live Captioning**

In the course of reviewing its survey results and soliciting examples of clips to facilitate discussion with the Consumer Groups, NAB determined that a number of stations utilize live captioning in ENT-permissible markets, although NAB does not have sufficient data to provide an exact number. In follow up interviews with some of these stations, NAB ascertained that among the primary reasons for a shift to real-time captioning is the nature of the content of the news programming. Those stations with more live, out-of-studio or interview programming appear more likely to have investigated or implemented live captioning because of the difficulties inherent in fully

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<sup>38</sup> The Commission's rules mandate the accessibility of information disseminated in the audio portion of video programming. Specifically, broadcasters are required to make emergency information accessible "by using a method of closed captioning or by using a method of visual presentation." 47 C.F.R. § 79.2(b)(1) (emphasis added).

implementing Enhanced ENT where, in their editorial discretion, they choose to offer more unscripted program content.

One of the nation's largest television broadcasters (by number of stations) uses live captioning in 40 of its 63 news markets, with captioning provided by U.S. Captioning and Caption Colorado, spending more than \$7 million annually. The company describes its transition to real-time captioning beginning in January 2015 as "a very long and arduous process" due to high industry demand for captioning network and major market local news programming and, in its opinion, the real challenges captioning companies face in delivering top quality captioning service. Despite this broadcast company's presumed leverage, it has been unable to procure live captioning services in each of its markets. Further, most small and medium market stations report that they have been successful only in obtaining modest captioning sponsorships, if any. Notably, as further discussed below, several of the stations NAB interviewed expressed concern about the quality of the live captioning services they receive, even though the providers are among the most reputable in the country.

#### **D. Enhanced ENT Is Generally More Accurate and Synchronous Than Live Captioning**

Simply by virtue of the fact that it follows a prepared script, ENT produces more accurate and complete captions in local newscasts than does live captioning. The NAB Survey indicates that 23.3% of broadcasters who utilize Enhanced ENT, including those who use a combination of ENT and real-time captions, do so because the accuracy of ENT captions is superior to live captions.<sup>39</sup> The information NAB obtained through follow up interviews with broadcasters is consistent: many stations cite time lags and human

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<sup>39</sup> *NAB Survey* at 7.

errors in live captioning as a factor for opting to continue utilizing ENT. Moreover, certain broadcasters that have switched to real-time captioning report significant concerns about the quality of live captions—specifically, accuracy and synchronicity—and have considered a return to ENT as a result.

The overall quality of ENT, including in comparison to live captioning, was a primary focus of discussion among representatives from NAB and the Consumer Groups as they viewed representative samples. The live captioning examples contained misspellings, dropped words, and significant latency. While not perfect, the ENT captions generally contained fewer misspellings and dropped words than did live captions, and were more synchronous. As discussed below, the continued concerns with Enhanced ENT expressed during the meeting centered not as much on accuracy and synchronicity, but on remaining gaps, inconsistencies in weather summaries, and the display and pacing of the captions.

**E. Caption Users Continue to Experience Problems with Captioning, and the Stakeholders Are Committed to Finding Reasonable Solutions**

Despite the improvements in accessibility that have resulted through implementation of Enhanced ENT over the past 15 months, the Consumer Group Survey indicates that viewers in ENT-permissible markets have valid and significant concerns about the overall quality of captioning, whether ENT or real-time.<sup>40</sup> NAB and the Consumer Groups will continue to work cooperatively to address these issues.

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<sup>40</sup> As was the case with the broadcaster survey, NAB and the Consumer Groups worked in tandem to ask questions designed to assess whether Enhanced ENT has improved access to local broadcast television news for caption users in small and medium markets. The narrative responses to the Consumer Group Survey, however, extend to entertainment programming, captioning offered by cable providers, live captioning and the quality of captions generally.

Specifically, 68.93% of the Consumer Group Survey respondents believe that the quality of captions contained in local broadcast television news is inferior to captioning provided in other television programs they watch.<sup>41</sup> 82.14% of respondents say they have experienced captioning “problems” while watching local news, and 49.32% suggest they have experienced “problems” during periods when emergency information is being disseminated.<sup>42</sup> 74.76% of respondents reported not noticing any changes with caption accuracy in local broadcast television news programming since the implementation of Enhanced ENT.<sup>43</sup> 11.07% of respondents reported that local broadcast television news captions have gotten better over the past year.<sup>44</sup> In terms of accuracy, on a scale of 1-5, the median score was 3.<sup>45</sup> With respect to synchronicity,

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<sup>41</sup> *Consumer Group Survey* at 2.

<sup>42</sup> *Id.* at 2, 5. The Consumer Survey asked caption users to identify “problems,” such as where a newscaster obviously is speaking but no words appear, misspelled words, missing words, missing captions before commercial breaks, and incomplete phrases. Approximately 71% indicated that there are times when newscasters are speaking that remain uncaptioned, but the survey results offer no further detail. *Id.* at 3. The most common problem identified in the Consumer Group Survey is the lack of captions during emergency programming. Other problems identified included captions being inaccurate, incomplete, and delayed. *See id.* at 2-3. The Consumer Group Survey responses suggest that broadcasters are providing “visual presentations” during emergency programming, such as crawls and graphics. *See supra* note 38 (describing the Commission rule for conveying emergency information); *see, e.g., Consumer Group Survey* at 25. Additionally, the NAB Survey suggests that 94.7% of broadcasters who use Enhanced ENT supplement breaking news “through the use of crawls, textual information, or other means.” *NAB Survey* at 5.

<sup>43</sup> *Consumer Group Survey* at 3.

<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 1. More specifically, 60.97% experienced misspelled words, 59.03% experienced incomplete sentences, 52.04% experienced phrases that are obviously missing words, 64.47% experienced phrases that are obviously incomplete or do not include everything that is being said, 71.26% experienced missing captions—for

almost half—49.13%—of respondents report that captions are both delayed and too fast, with only 9.90% of respondents reporting that captions are in sync.<sup>46</sup> As far as completeness, 49.90% of respondents report weather segments being captioned,<sup>47</sup> and 53.01% report sports segments being captioned (with 33.20% of respondents answering that they do not know whether sports is captioned because they do not watch those segments).<sup>48</sup> 85.44% answered “yes” to the question “do the captions ever stop during breaking news reports or live coverage of events during the local broadcast television news?”<sup>49</sup> Finally, 78.06% of respondents noted that captions sometimes cover up text or graphics on the screen.<sup>50</sup>

Many of these same concerns were echoed when the stakeholders met, and together, broadcasters and the deaf and hard of hearing community discussed possible solutions to several of the identified problems. For example, some suggested that anchor “banter” could be more ubiquitously scripted, so that ENT captions reflect what anchors are actually saying, especially at the beginnings and ends of segments. In

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example, where a newscaster is obviously speaking but no words appear, and 53.40% experienced missing captions right before the commercial break. *Id.* at 2-3.

<sup>46</sup> *Id.* at 3.

<sup>47</sup> It is unclear whether this statistic accounts for captions that summarize weather information instead of “precisely track[ing] the words used on air.” 47 C.F.R. § 79.1(e)(11)(i)(B). Respondents to the Consumer Group Survey complained of both weather programming lacking captions altogether, and weather programming being captioned with summaries. *See, e.g. Consumer Group Survey* at 8 (“[W]eather captions are a canned item, not what the weatherman is actually saying”).

<sup>48</sup> *Consumer Group Survey* at 4.

<sup>49</sup> *Id.* at 4.

<sup>50</sup> *Id.* at 5.

certain instances, there was a complete disconnect between the weather forecast loaded into the prompter and that being given live in the audio.<sup>51</sup> Several members of the group suggested that captions either appear on the screen “too fast or too slow,” which makes captioning hard to follow and the content of the programming difficult to comprehend. The group acknowledged that some of the criticism may be subjective, and that a range of personal preferences about pacing and style, for example, may exist. As for concerns about captioning placement, NAB agreed to investigate technical solutions to better ensure that relevant graphics and other information are not covered by captions.

## **V. RECOMMENDATIONS**

As noted above, NAB and the Consumer Groups are committed to ongoing discussions about further enhancing the use of ENT captioning or otherwise improving caption users’ viewing experiences with local news, particularly in small and medium markets. At present, NAB has identified three concrete recommendations for near-term improvements.

### **A. Broadcaster Education and Training Regarding Inputting and Formatting of Scripts**

First, NAB recommends that broadcasters engage in education regarding script formatting for ENT to ensure that deaf and hard of hearing viewers may more easily read the resulting captions. In the course of reviewing clips from ENT-captioned newscasts, representatives from the deaf and hard of hearing community noted that ENT captions can, at times, be difficult to read and digest simply because of the format

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<sup>51</sup> The clip in which there was a disconnect appeared to be permissibly summarized weather information instead of the speaker’s exact words. See *supra* note 47.

and pacing. Sometimes, captions appear with very few words to a line, or are crowded to one side of the screen. The short lines require the captions to turn over quickly or disappear to keep pace with the words read from the teleprompter. NAB has already shared this feedback with its members, and believes the problem may be ameliorated to a significant degree through additional training at the station level. The scripts used to create ENT captioning are currently formatted with the primary goal of ensuring that an anchor or reporter can easily read and communicate the information verbally. With additional education and training about how the format and input of scripts into the ENT system impacts the ability of caption users to read and comprehend the resulting captions, NAB believes that broadcasters can tangibly improve the experience of users viewing ENT captions.

**B. Consumer Education Regarding Customizing Captions To Accommodate Personal Preference**

Second, NAB recommends that broadcasters, the FCC, and Consumer Groups engage in consumer education regarding technology that enables viewers to customize captions. Caption users have expressed a wide variety of caption-style preferences that contribute to each individual's overall viewing experience. The existing technical standard—CEA-708—enables viewers with digital television sets to customize caption displays. CEA-708, which was adopted by the Commission in 2000 and implemented in 2009,<sup>52</sup> allows users to customize caption size, caption font, character background and

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<sup>52</sup> See *Closed Captioning Requirements for Digital Television Receivers; Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, ET Docket No. 99-254, MM Docket No. 95-176, Report and Order, 15 FCC Rcd 16788 (July 31, 2000) (adopting the CEA-708 standard “to provide guidelines for encoder and decoder manufacturers and caption providers to implement closed captioning services with digital television technology”).

foreground colors, and other features.<sup>53</sup> As the Commission has recognized, however, the use of these customization features amongst the deaf and hard of hearing community is low.<sup>54</sup> Improving the information flow to consumers about available controls on DTV receivers would address some of the subjective quality preferences that caption users express.

### **C. Continued Dialogue Between Broadcasters and Consumer Groups**

Third, and perhaps most importantly, NAB commits to continued open communication between broadcasters and caption users with respect to stations that utilize Enhanced ENT. NAB and the Consumer Groups have collaborated to design, implement, and assess Enhanced ENT, and this partnership has been invaluable. NAB and its members have welcomed the constructive feedback and guidance from the deaf and hard of hearing community about ways to make local news more accessible to all viewers. We have brainstormed about means for stations to receive feedback from caption users directly, such as providing contact information in captioning at the end of a news broadcast (in addition to the website contact information required by the Commission), or through local community outreach. As one television news executive put it, local broadcasters are not in a position to turn away any viewers. Therefore, NAB's members are incentivized to maintain channels for meaningful input from caption users, and to implement voluntary measures that will improve the accessibility of their local news programming, whether through ongoing dialogue between NAB and the

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<sup>53</sup> See 2014 *Enhanced ENT Order* ¶ 160.

<sup>54</sup> See *id.* (explaining that anecdotal evidence “suggests that often it is challenging for consumers to figure out how to access the features made available through CEA-708 display standards”).

Consumer Groups in Washington, through feedback to individual stations, by championing improved technology, or through the creation of select focus groups across the country that allow local broadcasters utilizing ENT and their deaf and hard of hearing viewers to assess the quality of captions and access to local news together.

## **VI. CONCLUSION**

As this Progress Report demonstrates, over a relatively short period, television broadcasters have implemented Enhanced ENT in a manner that has resulted in significant improvements in the quality and quantity of captioned content in local news programming. At the same time, NAB's members report that the market for quality real-time captioners remains relatively unchanged, and problems with live captioning persist. NAB remains committed to working collaboratively with the Consumer Groups to enhance the viewing experience for all caption users, and will use the results of the Consumer Group Survey and our ongoing dialogue to further educate and train its station members that utilize Enhanced ENT. Our experience over the past year teaches us that real-time captioning is not a panacea, and that mandating its use will come at the cost of diminished local news offerings without meaningful overall improvement in captioning quality. As the market continues to pursue advancements in different technologies, such as voice recognition, NAB respectfully submits that Enhanced ENT remains the best option near-term, and that the Commission should not extend at this time the requirement for real-time captioning to medium and small markets and to non-major network affiliated stations in large markets.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right.

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