

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

In the Matter of)	
)	
Improving the Wireless Resiliency Cooperative)	PS Docket No. 11-60
Framework)	
)	

COMMENTS OF CONSUMER GROUPS

**Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)
Hearing Loss Association of America (HLAA)
National Association of the Deaf (NAD)
Coalition on Inclusive Emergency Planning/Washington State Independent Living Council
(CIEP/WASILC)
California Coalition of Agencies Serving the Deaf and Hard of Hearing, Inc. (CCASDHH)**

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EXECUTIVE SUMMARY

Consumer Groups appreciate the Bureau's foresight in seeking out different perspectives and experiences regarding the efficacy of the Wireless Resiliency Cooperative Framework (the "Framework"). Deaf and hard of hearing individuals, deaf-blind users and users with mobility disabilities have different communications needs and experiences in the context of a disaster which are not sufficiently recognized in the Framework.

The harsh reality is that individuals who are deaf or hard of hearing are too often left out of the emergency alerting process. During times of disasters, the deaf and hard of hearing community face significant problems receiving complete and timely communications warning of emergencies and providing important public safety service updates. The community faces challenges such as wireless network outages that inhibit the efficacy of wireless emergency text alerts and the inability for some consumers in the deaf and hard of hearing community to afford both cellular services and broadband (*e.g.*, WiFi). This community typically must rely on multiple sources to piece together complete information about the status of a disaster, sheltering and evacuation instructions, service outages and restoration, etc. Some consumers in the deaf and hard of hearing community cannot afford to subscribe to both cellular services and broadband. As a result, emergency and disaster information that is inaccessible, incomplete, delayed, or inaccurate puts the safety of individuals in the deaf and hard of hearing community at risk.

Accordingly, Consumer Groups urge the Bureau to recommend that the Framework include specific provisions that address the needs of this community with respect to wireless services in emergency and disaster situations and provide suggestions for changes or expansion to the Framework as an extension of the CTIA Best Practices regarding Creating Education

Awareness Campaigns to improve the distribution of emergency and public safety information to the deaf and hard of hearing community during times of disasters or wireless network outage.

TABLE OF CONTENTS

	<u>Page</u>
I. CONSUMER GROUPS APPLAUD THE BUREAU FOR SEEKING EXPERIENCES AND PERSPECTIVES FROM A BROAD CROSS SECTION OF THE COMMUNITY	2
II. THE DEAF AND HARD OF HEARING COMMUNITY FACE SPECIAL CHALLENGES IN COMMUNICATING DURING HURRICANES AND SIMILAR DISASTERS.....	3
III. THE FRAMEWORK SHOULD INCLUDE REQUIREMENTS FOR BEST PRACTICES EDUCATION AND INFORMATION DISTRIBUTION TO THE DEAF AND HARD OF HEARING COMMUNITY FOR PREPAREDNESS AND DURING DISASTERS.....	7
IV. CARRIERS AND/OR MUNICIPALITIES SHOULD IMPROVE PUBLIC EDUCATION IN ADVANCE REGARDING SAFETY ALERTING SERVICES AND PREPAREDNESS IN THE EVENT OF AN EMERGENCY	10
V. OTHER SUGGESTIONS TO IMPROVE THE FRAMEWORK	12

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effectiveness of the Framework following the seven major hurricanes affecting the United States and its territories in 2017 and 2018.¹

I. Consumer Groups Applaud the Bureau for Seeking Experiences and Perspectives from a Broad Cross Section of the Community.

In the Notice, the Bureau asked for input from a broad cross section of interested parties, including industry and government bodies at all levels, “and particularly from consumers, including people with disabilities and those who may be disproportionately affected by communications outages, as well as from any other interested stakeholders.”² The Notice seeks comment on multiple aspects of carrier coordination procedures in preparation for and during disasters including, for example, experiences with roaming and wireless carrier mutual aid. The Notice also seeks information about “Local Preparedness and Consumer Readiness” and “Public Awareness of Service and Restoration Status” which includes questions about the effectiveness of government and carrier public education about disaster preparedness as well as CTIA’s Best Practices.³ The Bureau is also interested in ways to improve the Framework and “any concerns or issues that have not been discussed or noted in previous Public Notices, comments or discussions of the seven hurricanes . . . Are there are challenges experienced during a specific hurricane that are not accurately reflected in the responses of the Signatories to the PSHSB Letters? If not, what are those concerns and their potential solutions?”⁴

Consumer Groups appreciate the Bureau’s foresight in seeking out different perspectives and experiences. Deaf and hard of hearing individuals, deaf-blind users, and users with mobility

¹ The Bureau intends to use the information gathered to help inform recommendations it may make to the Commission on measures that would expedite service restoration efforts in the face of a storm or other disastrous events and to add to ongoing review of the Framework. *See* Public Safety and Homeland Security Bureau Seeks Comment on Improving the Wireless Resiliency Cooperative Framework, Public Notice, PS Docket No. 11-60, at 2 (rel. Apr. 1, 2019) (“Notice”).

² Notice at 1.

³ *Id.* at 5-7.

⁴ *Id.* at 8.

disabilities have different communications needs and experiences in the context of a disaster which are not sufficiently recognized in the Framework.

From this perspective, Consumer Groups direct their comments in particular to the Bureau's call for input on the Framework's provisions regarding "Local Preparedness and Consumer Readiness," "Public Awareness of Service and Restoration Status," "Promotion and Monitoring of the Framework," and "Other Framework Improvements."

II. The Deaf and Hard of Hearing Community Face Special Challenges in Communicating During Hurricanes and Similar Disasters.

During times of disasters, the deaf and hard of hearing community face significant problems receiving complete and timely communications warning of emergencies and providing important public safety service updates. In the event of a disaster, many, but not all members of this community rely on captioned local television news and weather, either in real time or electronic newsroom reporting format, as well as captioned information transmitted during other television shows, when there is breaking news. However, local television is only one source of information. Many members of the deaf and hard of hearing community also depend on wireless emergency text alerts on their mobile devices such as Android, iPhone, Tablets, iPads, etc. as a reliable source of emergency alerts.⁵ Outages of wireless networks thus presents a special problem for the deaf and hard of hearing community.⁶ Moreover, WEA messages generally are sent out via cellular wireless networks only and are not sent to WiFi networks.⁷ Many deaf, deafblind and hard of hearing consumers cannot afford to pay for both cellular services and

⁵ See In the Matter of Wireless Emergency Alerts, PS Docket No. 15-91; In the Matter of Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert System, PS Docket No. 15-94.

⁶ The community relies on three aspects of the wireless network: voice, control signals, and data. If the wireless voice network is experiencing an outage, generally control signals continue to support wireless emergency alerts ("WEA") and SMS.

⁷ Consumer Groups suggest that WEA be applied not only to mobile devices, but also VOIP/Landline and in formats that match the user's preferences as indicated in the registration process.

WiFi/broadband service. Consumers that have only residential broadband or rely on public WiFi service will not receive WEA notifications.

The harsh reality is that individuals who are deaf or hard of hearing are too often left out of the emergency alerting process. This community typically must rely on multiple sources to piece together complete information about the status of a disaster, sheltering and evacuation instructions, service outages and restoration, etc. Emergency and disaster information that is inaccessible, incomplete, delayed or inaccurate puts the safety of individuals in the deaf and hard of hearing community at risk. Accordingly, we urge the Bureau to recommend that the Framework include specific provisions that address the needs of this community with respect to wireless services in emergency and disaster situations.

Below are brief accounts from deaf and hard of hearing individuals of their experiences with wireless networks and emergency and disaster information during hurricanes in 2017 and 2018, as well as other disaster and emergency incidents occurring in those years:⁸

1. During Hurricane Harvey in the Houston-Beaumont area of Texas, there was a mass power outage and people were unable to use their TTYs after batteries ran out. Beaumont did not have text to 9-1-1 so a personal cell phone number was provided to emergency management and they advertised it as a number that people could text. Trying to bridge the communication gap, local interpreters were also involved using their cell phones to relay information or receive requests for help from the deaf community. In the aftermath, the Governor's office (The Governor's Committee on People with Disability) learned about this situation and contacted the Texas Commission on State Emergency Communication (CSEC) to discuss the status of text to 9-1-1 and mitigation for future events.
2. On July 13, 2013 at 2:31 pm, a fuel tanker crashed and exploded into flames a mile from a home in Silver Lake, CA. The homeowner received several voice messages regarding this event on the homeowner's smart phone instead of text messaging.

⁸ We include practical "on the ground" experiences from individuals in the community that occurred in the context of all types of disasters, not only hurricanes, because the need for access, education and information about wireless outages, restoration and emergency services are often similar regardless of the source of a disaster. Also included is mention of an event in 2013 to illustrate problems that deaf and hard of hearing individuals encounter in receiving adequate and timely emergency alerts.

3. On October 9, 2017, two destructive fires consumed more than 52,000 acres in Napa and Sonoma Counties. Approximately five hundred individuals who were deaf did not receive notification until much later after their neighbors were alerted. It has been reported that officials failed to activate the alert system on the night of the fires for fear of setting off a panic and jamming roadways.⁹ Many struggled to comprehend what exactly was happening and were only able to obtain information when they encountered hearing people and exchanged notes.
4. On October 17, 2017, an explosion and fire rocked the Chevron Refinery in El Segundo, California. It was reported that helicopters hovered over the area and announced over loudspeaker instructing residents to evacuate the area. Naturally, people who are deaf or hard of hearing were not aware of the announcement.
5. On December 6, 2017, the Skirball Fire flared in Bel-Air hillside near Skirball Cultural Center and the Getty Center off the freeway 405, in California. Residents within the affected area were under mandatory evacuations. However, a deaf citizen not having received warning travelled to the Los Angeles International Airport on that freeway that morning unaware of the fire until a friend sent a text message to inform of the fire.

A report titled “Watershed Emergency Response Team Evaluation, Skirball Fire, CA-LFD-030179,” published on January 22, 2018, explains that the City of Los Angeles has a voluntary citizen emergency alert notification system.¹⁰ NotifyLA is the City of Los Angeles’ official mass notification system is used to send voice messages, text messages and email messages to residents and businesses during times of emergencies and disasters. Notifications are sent to residents only if they sign up for the service, and the report encouraged residents within and downstream of the burn area to sign up for the system to receive emergency notifications.

6. On December 27, 2018, the entire 9-1-1 network crashed in Washington State for the second time in 14 years. Emergency Management Division sent out a statewide WEA alert. Places where a person was registered for alerts then sent out messages that contained 10-digit numbers for all call centers within their counties. One person’s daily commute traversed three counties with different circumstances:

A. Thurston County 9-1-1 issued a single ten-digit number for people to call during outages. The 9-1-1 outage put a toll on children and people with disabilities trying to reach 9-1-1 when they attempted to call for emergency assistance because they did not know or did not understand they had to call via a ten-digit number. (The outage was attributed to a carrier breakdown.)

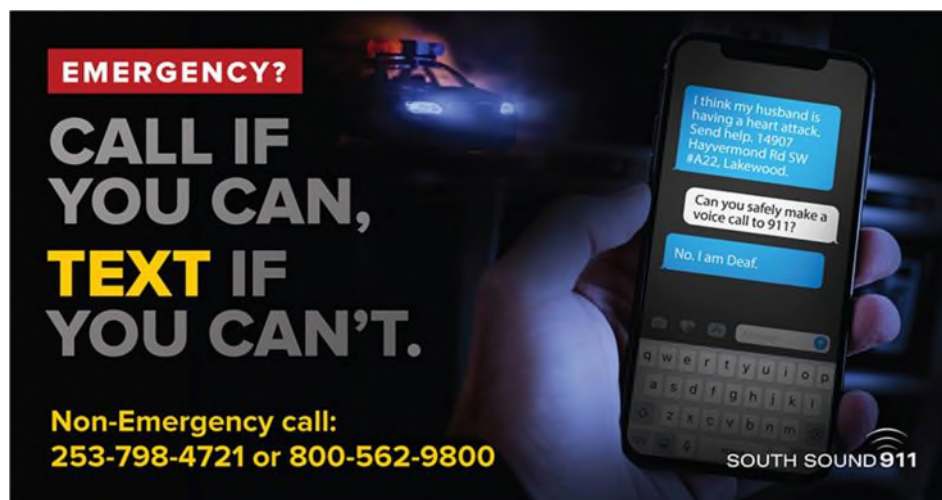
⁹ <https://www.nytimes.com/2017/10/13/us/california-wildfires-victims.html>.

¹⁰ http://cdfdata.fire.ca.gov/pub/cdf/images/incidentfile1927_3371.pdf.

B. King County, WA has 12 call centers surrounding the Seattle metro area. Under normal circumstances, a person can call 9-1-1 and be connected to the most appropriate PSAP based on location. During the outage, the 9-1-1 connection was disrupted and people had to call individual PSAPs on its specifically assigned 10-digit number. To obtain the fastest help, individuals had to call the right PSAP for their location. In order to obtain the correct PSAP number, people had to research the number for the most appropriate PSAP based on the individual's mobile coverage and exact location. The process took time and was prone to mistakes and, as a result, put callers in this area at risk.

The good news was that King County had just launched Text-to-911 a week before, and it remained operational through the 9-1-1 outage. This meant that people who were aware of this capability were able to text even though the voice network was down. King County is now doing a joint research project with University of Washington on the best way to send out CPR instructions via text.

C. The middle part of the commute is Pierce County (Tacoma, WA) where emergency management officials really interact with the deaf community in various community events, and has followed up with its own Text-to-911 service. Their marketing consultants worked with deaf leaders in the community and came up with a banner showing a screenshot of a conversation. After the initial exchange of information, the 9-1-1 dispatcher asks ARE YOU SAFELY ABLE TO MAKE A VOICE CALL? to which the caller replied NO, I AM DEAF (Photo below)



III. The Framework Should Include Requirements for Best Practices Education and Information Distribution to the Deaf and Hard of Hearing Community for Preparedness and During Disasters.

The Notice seeks information on the Framework's provisions regarding Local Preparedness and Consumer Readiness as well as Public Awareness of Service and Restoration Status.¹¹ In that regard, the Notice points to the CTIA Best Practices steps for "educating the general public about wireless resiliency preparedness"¹² and specifically seeks information about the adequacy of Signatories' education efforts.¹³ For the deaf and hard of hearing community, wireless network carriers and wireless services are critical sources of emergency and public safety information before, during, and after a disaster event. Below, Consumer Groups make several suggestions for changes or expansion to the Framework as an extension of the CTIA Best Practices regarding Creating Education Awareness Campaigns to improve the provision of emergency and public safety information to the deaf and hard of hearing community during times of disasters or network outage.

- A. If a carrier requires specific subscriptions to receive text warnings, it should be required to inform the public of this requirement and to go farther and facilitate the subscriptions process through robust public outreach and public education efforts.
- B. Individuals already have service with their preferred wireless carriers. They should not have to take the extra step of re-registering to receive WEAs. The chance of receiving notifications using control channels is far better than the voice network which typically becomes congested making it difficult for people to contact each other. This congestion typically continues in the aftermath of a large scale disaster.

This method of disseminating a notice via WEA, SMS, or an equally effective emergency notification system also benefits individuals who may be traveling through an affected area. We recommend creation of a unique webpage exclusively for an accessible message that provides a URL address dedicated for dissemination via WEA, SMS, or an

¹¹ See Notice at 5-6.

¹² *Id.* at 5.

¹³ The Notice specifically asks whether Signatories' education awareness campaigns adequately provide information sharing with local communities during disasters and to what extent are Signatories adequately educating the general public about wireless resilience preparedness, including what devices will work on which networks and what capabilities various types of devices will provide during disasters." *Id.* at 6.

equally effective emergency notification system via broadcast cell tower. Once a notice with URL address is received, it will allow readers to select a link which will direct them to a designated webpage stored in a Cloud server pertaining to a specific incident for additional information in accessible formats for easy viewing to avoid information overload.

That unique webpage can include an informational video in American Sign Language with captions and audio descriptions. In addition, other accessible messages can be posted along with resources pertaining to shelters.

- C. There are problems with the local self-registry notification service for people who are deaf, deaf-blind, or hard of hearing who are not able to receive messages through a third party relay service. They register using their 10-digit numbers delegated to them from their preferred telecommunication relay service providers. However, it is problematic for individuals who rely on relay services, as several technical challenges may prevent the reception of an alert. For example, when the notification system automatically sends out computerized voice messages to subscribers in mass volume, these calls reach the designated video relay service provider. Often, these calls are placed in a holding queue, waiting for the next available Video Interpreter or Communication Assistant to become available. During this delay, a recorded audio message is often played to alert hearing callers of the delay, announcing to the caller “Please hold for the next available agent.” However, many automated notification systems do not recognize this automated voice announcement causing it to disconnect and redial. The notification system may also misinterpret the recorded announcement as a human voice, and respond by delivering the automated message. When this occurs, if the Video Interpreter or Communication Assistant answers the call, it is highly likely that he or she will not capture the full information before connecting with a telecommunications relay user. Often, the notification system will then disconnect assuming that the message has been delivered, when in fact it has not. (These and all alert notices should have Caller ID to enable a call back to retrieve necessary information.).

There have been many electricity power outages during disaster events. Videophones, computers/tablets, captioned phones, TV, and Internet (WiFi) all require electric power to operate and will not work in the event of an electrical outage. Also, cellular phones need to be recharged from time to time in order to work. Cellular phones can work if the wireless carrier services work.

Further, this current setup does not allow deaf and hard of hearing travelers to receive notification in the event of a disaster because they may not have registered with the local emergency management agency in advance before traveling.

To address this issue, Consumer Groups recommend that notifications in disaster areas should not be limited to those who may have registered. Notifications should go to all phones that have pinged off a tower in or around that disaster region. This system change

could also benefit those in evacuation mode when they have moved outside their registered area but may still be in an area where new warnings are being distributed.

Consumer Groups point out that Wireless Emergency Alerts are supposed to be done without any need for a registration. Currently, if a state/county/local jurisdiction takes the appropriate training classes and registers accordingly, they can submit alerts over the WEA system which sends alerts to all phones in towers that are geographically identified. However, some jurisdictions either do not participate in WEA or they have multiple means of contacting people. Montgomery County, PA has a system in which individuals may register but the county will only use the WEA system in limited circumstances. For example, the county has opted not to use WEA for a tornado watch but will use it when immediately dangerous conditions develop (*i.e.*, when a tornado watch becomes a tornado warning). Likewise, the county may not use it at all for a severe thunderstorm warning but may use it if the storm has a history of extremely damaging winds. This inconsistency creates confusion and undermines reliance on the system by the community of people who are deaf or hard of hearing.

- D. A few government agencies, if they choose to “opt-in,” are offering mass notification services to residents who “sign up” to receive emergency warning and/or information. To receive notification, individuals must register with their local Emergency Management Agencies. Individuals who are blind or have low vision may not be able to navigate the webpage due to screen reading programs that are not able to capture vital information that is displayed on screen. Also, instructional videos may not be accessible for individuals who are deaf, deafblind, or hard of hearing. In many cases, the registration process itself is not accessible or 508-compliant¹⁴
- E. Pierce County, WA has a collection of generic disaster education videos in ASL and captions. Those videos go out on social media and email and illustrate steps that people can take if they are able. Then the county produces a quick video with details about the current disaster. We suggest the Framework should encourage carriers and other municipalities to undertake similar outreach and education on emergency preparedness.

¹⁴ There are also long-standing issues, about the efficiency and internal coordination within the agencies that individuals who are deaf, deaf-blind, or hard of hearing have encountered when facing disasters. For example, emergency response is divided into several categories or Emergency Support Functions (“ESF”). For the purpose of the Bureau’s examination, we focus on ESF2 for Communications, ESF6 for Mass Care, ESF8 for Public Health, and ESF15 for External Affairs, which covers emergency notifications. These ESF’s are assigned to various agencies on the local, state, tribal, and federal levels. These separate assignments are one reason why there is often a disconnect between 9-1-1 services and emergency management agencies in many places when they should be collaborating more before, during, and after disasters. This division between functions among the ESFs means that it is more difficult to implement items that cross these lines. Emergency notifications is an example; ESF2 is responsible for the communications infrastructure but ESF 15 is responsible for the content that goes out over those networks. So if a notification needs to go out on a compromised network, there may be confusion or delay caused by this division of responsibility. See <https://www.fema.gov/media-library/assets/documents/25512>.

IV. Carriers and/or Municipalities Should Improve Public Education in Advance Regarding Safety Alerting Services and Preparedness in the Event of an Emergency.

The Framework should specifically encourage carriers and municipalities to interact and coordinate with the deaf and hard of hearing community to get input on how best to meet their needs for emergency information and responses to wireless outages and restoration. Some steps are already being taken, for example, some carriers sometimes send alerts to those that subscribe to their service.¹⁵ Similarly, some power companies send word to those on smart phones when their power goes off, and to update them on when power would be restored fully in their area. But generally, there is an insufficient level of outreach to inform the deaf and hard of hearing community regarding preparedness and during a disaster.

In 2014, the Deaf Hearing Communications Centre (“DHCC”) in Philadelphia, PA completed a contract with the New Jersey Division of the Deaf and Hard of Hearing to conduct focus groups and develop a statewide training plan for the deaf and hard of hearing community there. This occurred just two years after Superstorm Sandy so many of those issues were fresh in their minds.

Some of these findings are relevant to the Bureau’s overall inquiry here. With respect to emergency notifications, DHCC found that consumers are not “plugged into” official sources of information or state and local community resources. In the survey, several questions were asked about awareness of official activities from alerting systems, evacuation routes, local hazards, public health issues. The ranges settled around 25% being positive, 15% being neutral, and 60% being negative. Other findings from these surveys include:

- People struggled to get accurate information from official sources.

¹⁵ The Framework should clarify that 9-1-1 and the Emergency Management Agency are two separate entities. 9-1-1 Communication Centers do not necessarily disseminate notice to the public. The Emergency Management Agency does, if individuals have opted in.

- People often used innovative ways to stay informed. One audience member's son worked for a township Public Works department and he kept her informed. Another had a son who works for a local Fire Department.
- Many audience members noted severe anxiety caused by lack of communication access and lack of information about emergency preparedness efforts.
- Participants in more suburban/urban areas are more "plugged in" to their communities resources. They often referred to a product called Nixle, used by many communities to distribute emergency information.

In response to the Notice's question about specific communications mechanisms in place to impart information (such as periodic meetings to promote community awareness of recovery planning and long term resiliency, notices and written information to community groups, meetings with community leaders, TV public service announcements, etc.), we are aware of just a handful of agencies that host meetings, although most places use ASL interpreters during meetings and briefings.

While state and local government emergency management agencies are the focal point for coordination of emergency planning, response, and recovery efforts before and during major disasters, emergency management agencies provide emergency management programs to respond to, recover from, and mitigate the impact of natural, manmade, or technological disasters. Additionally, the Emergency Managements Agencies serve as the emergency preparedness liaison with other municipalities, state and federal agencies, and the private sector. When a natural disaster or emergency strikes, state and local governments communicate that they are open for business and available to serve citizens through collaboration with 2-1-1, 3-1-1 and 5-1-1 through various Municipal Service Agencies. These agencies stand ready to play a frontline role in giving citizens the information they need before, during, and after an emergency, and in alerting other government agencies about areas where services are needed.

Those 2-1-1, 3-1-1, and 5-1-1 agencies can be reached via voice only. However, relay service users will not be able to call 2-1-1, 3-1-1 and 5-1-1 (hence N11) due to relay call centers not being located in the same areas as the callers. The relay call centers are located all over the country. If the relay agent dials that three-digit number, it will connect to the agency near the relay center rather than the caller. There is no national database on 10-digit phone numbers for those N11 agencies. The relay user will need to have 10-digit phone number to reach the N11 agency. North Carolina Governor Cooper has mentioned both 2-1-1 and its 10-digit phone number during Hurricane Florence press conferences as well as the crawlers including 10-digit numbers beside 2-1-1. Some 2-1-1 and 3-1-1 agencies have indicated that they are considering adding chat program in their systems, however the timeline for completion of that addition is unknown.

The Notice asks whether the education effort and programs by carriers and municipalities are adequate and if not, why not? In our experience, the effectiveness of the carrier and municipality education effort varies greatly from area to area. Some do a great job, and others do not. Much depends on the level of expectations of the general community with the key 9-1-1 center officials, and local government officials. Those from the disability community have and will continue to make their voices heard, with 9-1-1 and local government officials.

V. Other Suggestions to Improve the Framework.

We recommend that the Framework (and Best Practices) specifically encourage community meetings to be called prior to a disaster by local Emergency Management Agencies and/or local governments to solicit input from deaf, deafblind, and hard of hearing citizens. Such a dialogue would help this community to know what other services and resources citizens can

utilize so that they are kept fully informed as the situation escalates, and moves into the recovery and restoration phase.

Respectfully Submitted,

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