Before the
Federal Communications Commission
Washington D.C. 20554

In the Matter of	)	
	)	
Telecommunications Relay Services and	)	
Speech-to-Speech Services for	)	CG Docket No. 03-123
Individuals with Hearing and Speech	)	
Disabilities	)	
	)	
Access to Emergency Services	)	
	)	

Judith Harkins, Ph.D., Co-Principal Investigator
Gregg C. Vanderheiden, Ph.D., Co-Principal Investigator
RERC on Telecommunications Access
C/O Gallaudet University
800 Florida Avenue, NE
Washington, DC 20002

February 22, 2006

Before the
Federal Communications Commission
Washington D.C. 20554

In the Matter of	)	
	)	
Telecommunications Relay Services and	)	
Speech-to-Speech Services for	)	CG Docket No. 03-123
Individuals with Hearing and Speech	)	
Disabilities	)	
	)	
Access to Emergency Services	)	
	)	

Comments of the Rehabilitation Engineering Research Center
on Telecommunications Access

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) submits these comments in response to the Federal Communications Commission's (FCC or Commission) Notice of Proposed Rulemaking (NPRM) on access to emergency services through telecommunications relay services. The RERC-TA is a joint project of Gallaudet University and the Trace Center of the University of Wisconsin, Madison that is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education. The primary mission of the RERC-TA is to find ways to make standard systems directly usable by people with all types and degrees of disability, and to work with industry and government to put access strategies into place. The RERC-TA has previously submitted comments in response to numerous FCC proceedings on IP-related issues, including its proceedings on the application of Section 255 to IP telephony, the Commission's Section 706 inquiry concerning the deployment of advanced telecommunications capability to all Americans, wireline and cable broadband

proceedings, and proceedings on Voice over IP and 9-1-1. The principal investigators of the RERC served on NRIC VII, which addressed the evolution of telecommunications in relation to support for emergency services (9-1-1). The RERC convened a national conference on accessible emergency communications, including 9-1-1 access, at Gallaudet University in 2005.

The RERC greatly appreciates the FCC's inquiry into enabling 9-1-1 calling for users of VRS and IP text relay services.

Although no hard data exist, it is widely observed by people familiar with the signing deaf community that with every passing year, fewer and fewer people who are culturally deaf are subscribing to landline telephone service and thus fewer and fewer have access to 9-1-1. This is particularly true among deaf youth, many of whom see no reason to add a landline subscription to their communication costs when so many needs are met by VRS, videophones, IP relay, instant messaging, e-mail, and mobile text communications. Even cellular wireless devices cannot be used for calling 9-1-1 without plugging in a costly and large TTY, and very few deaf people use wireless devices in this way.

The result is a rapidly growing segment of consumers, whose access to 9-1-1 is protected by both ADA Title II and Title IV, but who have found themselves in the pre-ADA situation of being dependent on other people for summoning help in an emergency. Two recent occurrences illustrate what is happening; both of these involved deaf students at Gallaudet University. The first involved a student who has a TTY but was paged by her friend who did not have phone service, requesting that she make a 9-1-1 call for him – which she did. In the second situation, the student was injured but did not have a TTY. Her roommate tried to use IP relay to reach 9-1-1

and saw that 9-1-1 calls were not possible; she then looked up the DC government main number, called that number through the IP relay service and was routed to a responder. In both situations, considerable time was spent in summoning agency assistance because both individuals had to get the help of another individual before being able to access 9-1-1. Fortunately neither of these circumstances was life-threatening; in other situations this could have resulted in serious danger to their well-being.

Just as some hearing VoIP users have risked abandoning 9-1-1 access for improved functionality and for economic reasons, some deaf consumers have done the same. And just as some hearing VoIP consumers have been unaware that they are cut off from 9-1-1, so are some deaf consumers. Like the rest of the public, this group of relay users is in transition from PSTN to IP; the difference is that the deaf community is probably moving faster than the hearing population.

Thus the urgency for swift action in this case is as great as it is in the Voice over IP context on which the Commission ruled last year. In addition to a short-term solution to 9-1-1 access through VRS and IP-enabled relay services, approaches must concurrently be developed for longer term solutions that exploit the capability of advanced E9-1-1 infrastructure as it evolves over the next five to ten years.

Also concurrently, there needs to be a wholistic and systematic approach to 9-1-1 access. The Commission needs to immediately address not only 9-1-1 access through relay services, but also direct access to 9-1-1 via text. The FCC is the only agency with the expertise and mandate to address how text access can be migrated forward from the PSTN into IP so that text users can call 9-1-1 without the use of a relay service if they choose. The Department of Justice oversees the PSAPs with regard to ADA

compliance, but they are not in a position to determine what telecommunications protocols should be used to provide people with direct calling ability, during this time of network transition and beyond. The Commission, in its further notice associated with the VoIP and 9-1-1 order, noted that the ADA requires TTY access to 9-1-1, and posed questions about Voice over IP's ability to carry TTY signals. We note that while the ADA requires direct 9-1-1 access to users of TTYs, the report language of the ADA also makes clear the Congressional intent that 9-1-1 accessibility should take into consideration advances in technology.[1]

Changes in technology are necessitating changes in the way text accessibility to 9-1-1 is made possible. For example, the FCC needs to act to make possible an interworking plan for text transmitted between IP networks and the PSTN. This will provide direct text communication between PSAPs and people who no longer have landline service but use text over IP. This would also make it possible for IP-only text users to communicate directly with TTY users (for example, deaf-blind people who depend on TTY), just as VoIP users can readily communicate with PSTN voice users. The marketplace that takes care of voice communication across platforms, through gateways, and through firewalls does not work as well for text or video. The situation will continue to deteriorate without FCC attention. At the same time, an IP text successor to TTY is needed to ensure reliable and interoperable text communication on IP networks as people move off of analog networks (where TTY works) and onto IP networks where TTY is not reliable and where no-one wants to perpetuate TTY into the future.

---

[1] House Report on Title II of the ADA. H. Rep. No. 485, Part 2, 101st Cong., 2d Sess. 84-85 (1990)

We make the following recommendations to achieve the above transition:

1. **That the order for this proceeding include a fast-track schedule for review of the entire 9-1-1 situation with respect to accessibility to people who are deaf and hard of hearing – direct text access over the short- and long-term; wireless access over the short- and long-term; and relay service access (all approved forms of relay) in the short-and long-term.** A concentrated effort by all stakeholders is needed now, with the FCC in the lead. A schedule for progress over the next five years should be set. This should not be done piecemeal in many separate proceedings and advisory committees.
2. **That IP text relay be reviewed for its functional adequacy for 9-1-1 calling.** At present, IP text relay service is essentially a one-way service, with few companies providing calls to the text user from the voice user. Receiving calls is possible in at least one vendor's service (MCI), using an innovative approach that employs a North American Number Plan number which is given to the relay service user, and a commercial Instant Messaging service. IP relay services should be required to handle calls in either direction as a key feature in achieving access to 9-1-1, since call-backs are an essential part of PSAP operations and were in fact required in the FCC's recent order on interconnected Voice over IP services. It is time to move text interoperability into the Internet. The Instant messaging format used by many IP relay services has limitations for emergency calls because of delays, possible overlaps and confusions due to the sequential nature of the communication (sentence-wise, which is subject to cross posting, as opposed to flowing interactive text that appears character-by-character as it is typed).

3. **That a standardized numbering plan for relay callers be considered to overcome the problems experienced today with directory issues and dynamic IP addresses in all forms of IP relay.** The use of phone numbers would be an asset for achieving functional equivalency and could assist in call-backs from 9-1-1 as well as person-to-person calling during emergency. As numbering plans change, an FCC order on this issue could permit concurrent evolution of numbers used by deaf and hard of hearing relay users to the new formats.
4. **That a reliable IPtext format be identified and supported across telecommunication network technologies to ensure interoperability and provide a path for the eventual phasing out of TTY as we move to digital networks.** Although market pressures are ensuring interoperability of voice communication, we are seeing no such forces for interoperability of real-time text communication. (Note: Real-time text should not be confused with Instant Messaging. Although many would like to see interoperability of instant messaging systems, what is being highlighted here is not instant messaging but real-time text that plays a role similar to TTY except that it would run in parallel with voice over IP on IP networks.) This would provide the necessary real-time text capability needed both for emergency IP phone calls but also for daily text and text/voice calls on VoIP networks.
5. **That the Office of Engineering and Technology be heavily involved in the review of plans and decisions regarding short- and long-term technical approaches.** There are many intertwined issues around the concepts of voice, video, and text calling that need to be addressed, both for routine point to point calls and for 9-1-1 access, including location identification. The engineering staff of the OET

have been involved as technical advisors in many proceedings and advisory committees around Homeland Security and E9-1-1 issues, and their expertise is much needed in this proceeding.

6. **That the Commission's decisions be directed toward maximizing the equivalency between 9-1-1 access for deaf, hard of hearing, and speech disabled consumers and voice customers.** So far, this has not been the case. For example, dialing into a ten-digit administrative number is still allowed in TRS but has been dismissed as inadequate for voice customers in the interconnected-VoIP order. To the extent technically feasible, and even if it involves new expenditure of funds to make it happen, the timelines and standards should be equitable for direct text access, relay service access, and voice access to 9-1-1.
7. **That a stakeholder summit be convened in the next few months to address 9-1-1 access as a whole, and the registration issue in particular, since it is highly controversial.** The last stakeholder meetings on this topic were 15 years ago, soon after the passage of ADA. We now have a situation where the intent of ADA is not being met, and need to focus resources on coordination and communication – in a short timeframe.
8. **That the Commission coordinate these efforts with the U.S. Department of Justice and the Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities (ICC).** The ICC can serve a helpful role in coordinating among agencies that address the 9-1-1 issue. The expertise that has been developed by the group since its inception, and especially since the disastrous hurricanes of 2005, is significant. The involvement of the DOJ from

the beginning, given their role in PSAP regulation for ADA compliance, is essential.

Respectfully Submitted,

/s/

Judith E. Harkins, Co-Principal Investigator
Gregg C. Vanderheiden, Co-Principal Investigator
RERC on Telecommunications Access
C/o Gallaudet University
800 Florida Avenue, NE
Washington, DC 20002
202-651-5677