Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
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A National Broadband Plan for Our Future	)	GN Docket No. 09-51
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To: The Commission

COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA") hereby submits comments in response to the Commission's request for comments regarding its "Broadband Opportunities for Individuals with Disabilities" Workshop.

INTRODUCTION

TIA is the leading trade association for the information and communications technology ("ICT") industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of public policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy a wide variety of devices with the goal of making technology accessible to all Americans – an objective we share

with the Commission. Industry has worked voluntarily and productively with the disability community on a number of accessibility initiatives to achieve this goal. We look forward to working with the Commission to ensure all consumers remain connected through their continued access to ICT products and services.

The National Broadband Plan (the "Plan") is an ideal vehicle to address broadband accessibility and to create workable solutions to bring broadband to all Americans, including those with disabilities. TIA appreciates not only the opportunity to share its technical expertise to augment the Commission's understanding of this complex issue but to work in concert with the Commission in developing achievable solutions.. The "Broadband Opportunities for Individuals with Disabilities" Workshop held on August 20th was an important step to opening an honest discussion on accessible communications and the valuable role broadband can play. Below TIA has taken the opportunity to answer some of the questions raised in the Workshop, and we look forward to our continued work with the Commission on these issues.

DISCUSSION

Question 1: What specific challenges do you face in making your products – equipment, services, software, and networks -- accessible to people with disabilities? What strategies – such as universal design and focus groups of PWD -- do you employ to make your broadband products accessible to people with disabilities?

Manufacturers consistently face challenges associated with interoperability. Creating accessible communication technologies extends beyond incorporating accessibility features in product design. The product components must also be interoperable with Assistive Technology (AT), hardware, software, operating systems, peripheral devices, etc. Often people with disabilities create the need for unique

combinations of these components that were not necessarily designed to be interoperable but could be used to meet individual needs.

Digital closed captioning demonstrates the challenges posed by interoperability requirements. Including closed captioning decoding in a consumer device is insufficient and may be unnecessary. The consumer device cannot properly receive and decode the captioning data without compatibility with both the transmission link and the encoded caption data from the video program distributor. In the case of web-based media, the device may merely need to download a software program for decoding and rendering the video and caption data, and thus does not require an embedded decoder at all.

Manufacturers strive to coordinate with existing technology to include accessibility in their product development processes but many times are unaware that a feature or product is not accessible to a particular segment of the disability community or individual. The manufacturer can respond to complaints and make the proper adjustments to their product development lifecycle, if readily achievable. However, in order to achieve the greatest level of accessibility, it must be addressed in a cross-industry fashion that will create harmonized solutions for accessible technology.

Another challenge faced by manufacturers is the depth and breadth of disabilities to be addressed. While disabilities are categorized around sensory classifications, the solutions for one person may not be the solution for another. Public policy directs industry to respond but generally does not set priorities. While it is possible to implement some accessibility features into hardware devices, it is often very challenging to have a feature that will address a profound disability. For example, the industry has significantly improved the ability of digital handset phones to interoperate with digital

hearing aids without interference in the microphone mode and in the telecoil mode. Further, industry has improved volume control. However, persons with profound hearing loss may still find the volume and transmission insufficient.

Question 5: Is it possible to prepare a list of the accessibility issues related to broadband services, equipment, networks, and software that are your biggest concerns? Are there specific concerns about the affordability of broadband – separate from issues about accessibility of hardware and software -- as it relates to individuals with disabilities?

As described in detail in response to Question 1, manufacturers struggle with achieving interoperability across the broadband eco-system. Attempting to address the solutions for the broad continuum of disabilities on one device encumbers the affordability of the device. Universal design does not necessarily mean that a product or service will meet the unique needs of every person with disabilities.

Certain features on a phone or device may provide accessibility to one disability but not another. For example, a device with a larger screen will benefit users with low-vision but a larger screen is more likely to cause interference with hearing-aids. Manufacturers could potentially put every feature on every device but this would cause prices to sky-rocket and defeat the purpose of certain devices, particularly devices meant to be slim and small and not overly complex.

Attempting to meet the need of all disabilities on by putting all features on all devices is not an optimal solution. Loading features for one type or profoundness of a disability into all or most devices adds complexity – especially to mobile devices, where battery life and memory play a pivotal role in product development. Instead of requiring all accessibility features to be built into the device or network, the Commission should recognize the important role that Assistive Technology (AT) and software can play in

addressing specific disabilities. While many devices offer basic accessibility features, accessibility can be optimized when these devices allow for interoperability with AT or through the downloading of applications. The model of "built in features plus add on via interoperability" allows for customers to choose devices with particular built in features of interest and add their preferred types of specialized assistive technology to create a customized solutions that meet their individual needs.

Question 8: **Do you have specific concerns about people with disabilities being unable to take advantage of broadband applications and features? How can we ensure that people with disabilities and others who use mobile broadband technologies will be able to transmit emergency information to Public Safety Answering Points?**

The FCC asked how it could ensure that people with disabilities and others who use mobile broadband technologies will be able to transmit emergency information to PSAPs. TIA notes, first, that all wireless carriers make TTY-capable mobile devices available today, as is required by FCC regulations at 47 CFR 20.18. The overarching question is how to phase out the now antiquated TTY technology and replace it with some other text based communications suited for digital broadband technologies, including mobile broadband devices.

Emergency communications from a mobile user to PSAP and from the PSAP to mobile user require a high degree of accuracy, guaranteed delivery with override capabilities in the wireless network, a capacity to handle high peak and guaranteed latency. To provide this level of quality of service over new broadband networks for future emergency communications will require significantly more developmental work, proof of concept work and interoperability testing —through all layers of the network,

from end user devices through carrier networks to PSAPs, and vice versa – before any text based emergency communications standard for broadband is ready for deployment. [1]

TIA is aware that the European Community (EC) is engaged in on-going research and development work for digital text-based communications and for text-based emergency communications. The EC is specifically looking at the interoperability of various modes of communication on public networks with public safety networks in some member countries. The project is called REACH 112 and it is still in the first year of a 3 year study.[2]

Lastly, TIA recommends for consideration some steps that the FCC could consider now. First, the FCC could decide on an addressing and numbering scheme for text to "911". These schemes, like 911, 711, need to be protected now so as not to become proprietary to a private company at a later time. Second, as the FCC moves forward with considering its policies and regulations for future text-based broadband emergency communications, solutions should not depend upon a particular technological approach or require the licensing of particular proprietary intellectual property ("IP") in order to comply with future FCC regulations. At a minimum, if compliant solutions for text-based emergency communications depend upon licensed technologies, the details about the technologies, including any associated IP claims and the identities of IP holders should be disclosed as part of the policymaking discussions. In short, the FCC needs to

[1] In contrast, there are today social messaging technologies such as SMS and IM messaging. Mobile phones that provide "push" services and IM functionality provide users with near real-time mobile to mobile, conversational, text based messaging. When used on mobile phones that enable voice and data at the same time, users can augment this near real-time chat with voice phone call services. However, it is important to note that social messaging is not emergency messaging. These social messaging services do not meet international emergency communications standards and are not "real time" with guaranteed latencies. These social messaging services are also not interoperable with PSAPs at this time.

[2] More information about REACH 112 is available at http://www.reach112.eu.

ensure that broadband emergency communications technologies do not embed proprietary IP which will add greatly to the expense and deployment. Third, new communications services that will or may replace TTY and Relay Services need funding to stimulate adoption. TTY and Relay Services are eligible for Universal Services funding but new text solutions are not eligible. To stimulate consumer adoption of new text-based emergency communications solutions, the availability of Universal Service funding for new text-based emergency communications solutions must be considered.

Question 13: In addition to undertaking rulemakings, should the Commission be taking additional steps to promote broadband accessibility and affordability? Facilitate voluntary agreements between companies and consumers? Organize stakeholder forums to resolve difficult technical issues? Publicize best practices? Undertake outreach efforts? What works? What doesn't?

TIA commends the Commission for taking the crucial step of creating a National Broadband Plan which will spur broadband deployment and adoption for all purposes. Universal broadband availability is the foundation for ensuring that technology is accessible to all Americans. Technology is evolving at a rapid pace and, as a result, a variety of innovative devices, services, and applications exist that improve the lives of all Americans, including those with disabilities. These include voice-recognition and one-touch dialing for individuals with sight or mobility impairment; visual display and hearing aid compatibility for the deaf and hard of hearing; closed captioning on converter boxes; and Instant Messaging (IM).

Broadband will play an essential role in guaranteeing the continued evolution of these products and services. As noted at the Workshop, the Commission must include a

specific definition for minimum broadband that includes two-way transmission.[3] This will enable two-way live video communication that is critical for those who are deaf and hard of hearing to have full access to the national communications network.

As TIA has suggested in previous filings, an immediate step the FCC can take to promote broadband accessibility and affordability is to allow Lifeline and Link-Up recipients to apply the funds for broadband, a suggestion which garnered support by other parties at the Workshop.[4] A recent FCC report concludes that since 1985 when Lifeline began, low-income subscribership has increased almost 10%.[5] The report also concludes that low-income subscribership has grown by 4% since 1997 in states with higher Lifeline subsidy amounts, compared to only 1.4% in states with lower levels of Lifeline support. The Lifeline and Link-Up programs can be used to boost low-income broadband subscribership in the same way.

The FCC should take people with disabilities into account when incorporating computer training and digital literacy programs into its National Broadband Plan. Technical training programs implemented by Non-Government Organizations (NGO's) and assistive technology showrooms housed by some federal agencies, such as the Department of Interior and the Department of Agriculture, may provide guidance.[6] The Association of Assistive Technology Act programs has similar centers that work to increase the availability and utilizations of accessible information technology (IT) and

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[3] *Broadband Opportunities for Individuals with Disabilities*, Transcript, FCC National Broadband Plan Workshop, p. 87 (statement of Kelby Brick, Purple Communications) available at: http://www.broadband.gov/docs/ws_12_opportunities_dis.pdf ("Workshop Transcript").
[4] *Workshop Transcript* at 52-53.
[5] *FCC Telephone Penetration by Income Report*, available at: http://www.fcc.gov/web/stats (rel. Aug. 6, 2009).
[6] Information on the Department of Interior Accessible Technology Center (ATC) available at: http://www.doi.gov/atc/; Information on the USDA TARGET Center available at: http://www.da.usda.gov/oo/target/index.html

assistive technology devices and services (AT) for all individuals with disabilities in the United States and territories. Many non-profit hearing-loss associations have "listening rooms" for members to test hearing-aids with phones. Along the same lines, the FCC could work with disability advocacy groups to create training rooms for broadband.

The Commission could support voluntary self declaration to help consumers understand how products and services meet common industry and government standards. Accessible technology can most successfully be promoted without undue regulatory burden. When standards are referenced in government policies, industry advocates for effective conformance mechanisms that provide for adequate assurance of compliance, encourage innovation, and promote consumer choice. One such example is the voluntary supplier declaration of accessibility, defined in the ISO/IEC 17050 standard, and used in a number of countries around the world.[7] Another example is the Voluntary Product Accessibility Template®, or VPAT® – a template that industry uses to assist the government when making purchasing choices to meet their obligations under Section 508 of the Rehabilitation Act.[8]

The Commission should encourage and accommodate a consensus based approach between industry and the disability community. This consensus based approach was successful in the development of the Commission's current hearing aid compatibility (HAC) rules. The Commission should continue to use the current complaint process to identify problems that can be addressed in this manner. For example, a Technical

[7] ISO (the International Organization for Standardization and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. ISO/IEC 17050 specifies requirements applicable when an individual or organization responsible for fulfillment of specific requirments (supplier) provides a declaration that a product (including service),process, management system, person or body is in conformity with specified requirements, which can includenormative documents such as standards, guides, technical specifications, laws and regulations.

[8] 29 U.S.C. 794d

Working Group to study closed captioning and video description issues was established under the current Consumer Advisory Committee (CAC). According to the most recent FCC report on disability-related complaints, closed captioning was the most prevalent.[9] Focusing on the technical barriers through a vehicle such as the CAC will result in real, practical solutions that can be implemented in new technologies.

Question 15: What role could industry trade associations and consortiums play? For instance, could they organize a clearinghouse of accessible products for consumers?

Trade associations play an important role in the development of standards. TIA is accredited by the American National Standards Institute (ANSI) to develop voluntary industry standards for a wide variety of telecommunications products. TIA-1083, a standard developed to reduce noise and interference between hearing aids and digital cordless phones, exemplifies the success of a voluntary industry-based approach. In 2004 telephone manufacturers began to receive customer complaints form hearing aid wearers regarding interference problems. TIA organized and supported research in this area and developed a testing method to characterize the magnetic interference. This effort culminated with tests on cordless telephones by three different laboratories that were later correlated with results from a study conducted by Gallaudet University. TIA-1083, published in 2007, is already playing a significant role in efforts to reduce interference problems experienced by people using hearing aids. Recently, TIA has taken the significant step of updating TIA-1083 so that it can be applied to current technologies, such as Voice over IP (VoIP) telephones and softphones running on personal computers.

[9] *Report on Informal Consumer Complaints Regarding Access to Telecommunications for People with Disabilties,* available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293274A1.doc (rel. Sept. 8, 2009).

TIA suggests that a voluntary information clearinghouse of currently available accessibility technologies, to be maintained on an accessible website, should by considered by the Commission. The clearinghouse would act as a tool for consumers to assess which devices and features can be used to facilitate communication based on an individual's particular needs. The clearinghouse could also act as an interactive forum allowing the public to post descriptions of how a particular device or application may be useful in aiding certain disabilities. The clearinghouse could also provide links to other websites that may provide similar assistance. Further, the clearinghouse would be a communication bridge between the disability community and industry.

The Mobile Manufacturers Forum, an international association of radio equipment manufacturers, has developed a website and database as part of the Global Accessibility Reporting Initiative (GARI) that provides information about the various features a phone may have and how they may meet particular needs (www.mobileaccessibility.info). The database itself has information on over 90 features and is already available in several languages. It provides consumers with one of the most accurate and detailed reviews of handset features available, and is designed to evolve over time in line with user needs and technology changes.

CONCLUSION

TIA appreciates the opportunity to comment on these important issues and we look forward to working with the Commission on achieving universal broadband accessibility by all Americans.

Respectfully submitted,

By: _____

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September 15, 2009

APPENDIX A:
TIA ACCESSIBILITY INITIATIVES SUBMITTED TO OBAMA ADMINISTRATION

January 16, 2009

The Honorable Barack Obama
President-Elect of the United States of America
Office of the President-Elect
Washington, DC 20270

Dear Mr. President-Elect,

On behalf of the over 500 member companies of the Telecommunications Industry Association (TIA), I am writing to congratulate you on your election to the Presidency. As you know, TIA is the leading trade association for the information and communications technology ("ICT") industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of public policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce,

and deploy a wide variety of devices with the goal of making technology accessible to all Americans – an objective we share with your Administration. Industry has worked voluntarily and productively with the disability community on a number of accessibility initiatives, outlined below, to achieve this goal. We look forward to working with your Administration to ensure that all consumers remain connected through their continued access to ICT products and services.

TEITAC Participation: The Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC) was a temporary advisory committee established provide recommendations to the U.S. Access Board on how to refresh the Board's guidelines regarding how federal agencies and private industry are expected to make existing and emerging electronic and information technology accessible to people with disabilities. The committee included representatives from the disability community, standards-setting organizations, and industry, including TIA. The TEITAC process exemplifies the immense amount of progress that can be achieved through voluntary coordination of interested stakeholders on accessibility issues. TIA will continue to work with the Access Board and, as appropriate, the Federal Communications Commission (FCC) and other agencies to develop accessibility solutions.

Accessible Technology Industry Fair: With other high-tech trade associations, TIA co-hosted a Tech Fair on Capitol Hill in spring 2008. This gave policy-makers and consumers the opportunity to see first-hand the accessibility features and services that improve communications for all users, including those with disabilities. The over 30 companies represented at the Tech Fair showcased innovative devices and services that included voice-recognition and one-touch dialing for individuals with sight or mobility impairment; visual display and hearing aid compatibility for the deaf and hard of hearing; closed captioning capabilities on digital converter boxes and web-based video; and real-time Instant Messaging (IM) as an alternative to text telephony (TTY). Industry plans to host another Tech Fair in 2009 to demonstrate the exciting progress in this area.

Clearinghouse: TIA is working with other high-tech associations and the disability community to explore the possibility of developing an information clearinghouse of currently available technologies maintained on an accessible website. The clearinghouse would act as a tool for consumers to coordinate which devices and features can be used to facilitate communication based on an individual's particular needs. Further, the clearinghouse would be a communication bridge between the disability community and industry.

Coordination with Other Industries: In addition to its ongoing communication with other high-tech associations, TIA welcomes the opportunity to collaborate with partners outside of the communications sector. TIA has recently initiated discussion with the assistive technology (AT) industry and will be attending the Assistive Technology Industry Association (ATIA) Leadership Forum 2009. This will provide the opportunity for members of both associations to identify how their products can work together to develop accessible solutions.

Accessibility Standards

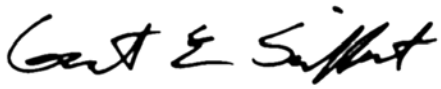
Below are some notable recent examples of TIA's efforts to forge industry consensus on accessibility technical standards:

- TIA-1083: As part of a collaborative effort with Gallaudet University, Etymotic Research and the Hearing Loss Association of America (HLAA), TIA organized and supported research to determine the cause of interference on digital cordless phones experienced by users with hearing aids. The result was TIA-1083, a standard that significantly reduces interference problems on digital cordless phones. All major cordless phone manufacturers have voluntarily committed to making their products 100% TIA-1083 compliant by 2010. Further, TIA-1083 is in the process of being updated so that it can be used with newer technologies, such as Wi-Fi® and Bluetooth®.
- TIA-1001: This is a standard, developed by TIA, used to transmit TTY communications across the Internet Protocol (IP) portion of the public switched telephone network (PSTN), making it easier for TTY users to use modern communications systems.
- C63.19: In 2009 TIA will continue to serve as an organizational member of the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) 63 Committee that develops standards related to electromagnetic compatibility. This Committee developed and published C63.19, a standard that specifies hearing aid compatibility requirements for cell phones.

These standards are examples of how open, consensus-driven standards processes will contribute significantly to ensuring that new products and services are accessible to people with disabilities.

Mr. President-Elect, thank you for your attention to these important issues. We applaud your message of hope and change and look forward to working with you as President to ensure that ICT remains accessible to all Americans.

Very truly yours,



Grant Seiffert
TIA President

APPENDIX B: WRITTEN TESTIMONY OF KEN NAKATA, TELECOMMUNICATIONS AND INTERNET SUBCOMMITTEE HEARING, 110TH CONGRESS ON DRAFT LEGISLATION – ENHANCING ACCESS TO BROADBAND TECHNOLOGY AND SERVICES TO PERSONS WITH DISABILITIES

[Submitted as separate document]