



FINAL WORKSHOP REPORT

EMERGENCY PREPAREDNESS FOR PERSONS WITH DISABILITIES AND SPECIAL NEEDS

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**EMERGENCY PREPAREDNESS FOR PERSONS WITH
DISABILITIES AND SPECIAL NEEDS**

FINAL WORKSHOP REPORT

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Executive Summary

The objective of this series of ANSI Homeland Security Standards Panel ([HSSP](#)) workshops was to convene key stakeholders from both the public and private sectors to explore the need for standards-based solutions and to provide actionable recommendations for the timely development of standards for more effective emergency preparedness for the community of persons with disabilities and special needs, specifically related to the built environment, products and assistive devices, and emergency evacuation operations.

The ANSI-HSSP is a public-private partnership with the mission of assisting the Standards Office of the U.S. Department of Homeland Security (DHS) Science and Technology (S&T) Directorate, the private sector, and any others in the promotion of existing standards, as well as accelerating development and adoption of consensus standards critical to homeland security. Specific homeland security issues are addressed by the panel via workshops. These workshops typically bring together subject matter experts to (i) identify existing standards and conformity assessment programs, (ii) determine where gaps exist, and (iii) make recommendations for addressing these gaps.

The subject of emergency preparedness for persons with disabilities and special needs is one that the ANSI-HSSP has addressed since early 2009. In February 2009, the ANSI-HSSP, in collaboration with the National Organization on Disability's (NOD) Emergency Preparedness Initiative (EPI) and the National Fire Protection Association's (NFPA) Disability Access Review and Advisory Committee (DARAC), launched a new workshop to examine existing and/or needed standards for emergency preparedness for persons with disabilities and special needs in regards to both the built environment as well as emergency evacuation operations. The final workshop report issued in May 2009 is available for review [click [here](#)].

This workshop report contains recommendations and resources that are aimed at having a positive impact on efforts related to emergency preparedness for persons with disabilities and special needs. In addition to serving as a reference for standards developing organizations (SDOs), disability advocacy groups, federal agencies, and all relevant stakeholders, high-level goals of this report include:

- Educating all key stakeholders, from standards developing organizations and federal agencies to first responders and persons with disabilities and special needs, on the challenges, approaches and standardization gaps throughout the emergency preparedness lifecycle that require attention.

- Serving as a call to standards developers to review gap areas identified and take necessary action (e.g. standards development where no standards exist and/or where published standards exist, increase awareness of their scope and existence.)
- Encouraging workshop participants to continue their engagement with the ANSI-HSSP to develop outreach strategies as a path forward in advancing standardization efforts addressing the needs of the community of persons with disabilities and special needs. It is imperative that these strategies call for both the inclusion of persons with disabilities and special needs as well as the emergency planning community in the process from the early stages.

The recommendations section of this report further elaborates on these key points categorized by challenges, current approaches, and standards issues and needs, as well as provides additional areas for further action.

The audience for this report includes the following sets of stakeholder groupings, to which ANSI and its partners will conduct outreach upon publication of this report:

- Federal agencies, state/local/tribal governments, disaster/emergency management, and related organizations
- Private sector entities (corporations, not-for-profits, faith-based organizations, community organizations), trade associations, chambers of commerce, architects, building owners, code officials, contractors, additional stakeholders/ resources in this arena
- Standards developing organizations (SDO's), ANSI-HSSP members, and ANSI members
- Traditional media and social media as well as others, to help publicize the importance of this effort

Background

As the twentieth anniversary of the Americans with Disabilities Act (ADA) was recently celebrated, the accepted definition of disability has shifted from an underlying physical or mental condition to a complex interaction between a person and his or her environment. In turn, barriers in the environment that prevent full social participation are increasingly being identified, addressed, and removed to support independence and promote involvement in all aspects of society¹.

The American National Standards Institute's (ANSI) Homeland Security Standards Panel (HSSP) addressed these barriers as they relate to emergency preparedness for persons with disabilities by convening a series of workshops in the second quarter of 2010. These workshops highlighted specific elements of this important topic: *Accessibility Codes and Standards*, *Product Standards for Assistive Devices*, and *Emergency Evacuation Operations*. More than eighty individuals representing technical experts, members of the standards community, code officials, representatives from federal agencies, and disability advocacy groups from approximately fifty public and private sector stakeholder organizations participated in this series of workshops. In doing so, these participants focused on the primary objectives of identifying existing standards and conformity assessment programs, determining where gaps exist, and making appropriate recommendations for addressing these gaps.

The aforementioned workshop series was a follow-up activity to the February 3-4, 2009 ANSI-HSSP Workshop on Emergency Preparedness for Persons with Disabilities and Special Needs held at Gallaudet University and co-chaired by the National Organization on Disability's (NOD) Emergency Preparedness Initiative (EPI) and the National Fire Protection Association (NFPA). Recognizing that for millions of disabled and special needs Americans, emergencies and natural disasters present a real challenge, the ANSI-HSSP launched this workshop to provide guidance and leadership in this critical area to take a proactive approach in ensuring their safety. Preparation, notification, response, and evacuation activities must take into account the particular needs of those individuals, who are visually, hearing, or mobility impaired, as well as the elderly, people with medical or cognitive conditions, and individuals with temporary disabilities. Thus, the 2009 effort consisted of a series of panels, roundtable discussions, and public input sessions where participants discussed real-life examples of evacuation of people with disabilities from recent events, the strengths and weaknesses of existing standards, and priorities in creating standards-based solutions for effective emergency preparedness.

¹ U.S. Census Bureau Website on Disability

The key priorities identified at the 2009 workshop noted above included the built environment, products, and emergency evacuation operations. These three topics set the stage for the 2010 workshops series, and while the 2009 workshop identified these gap areas, the recent 2010 workshop series sought to further elaborate on the needs related to these gap areas to foster collaboration between ANSI-HSSP members and constituents in attendance and relevant standards developing organizations. The proceedings of the workshop series and recommended next steps are summarized in this report.

There are many individuals and organizations that were instrumental in the production of this report and who contributed to the success of this workshop series. [Appendix A](#), Acknowledgements, seeks to recognize the contributions that were made during this workshop process.

Workshop Proceedings

Three meetings were convened for this workshop series as follows:

May 24, 2010	Accessibility Codes and Standards (Arlington, VA)
May 25, 2010	Standards for Products and Assistive Devices (Arlington, VA)
June 17, 2010	Emergency Evacuation Operations (New Orleans, LA)

The workshop co-chairs included: Dominic Sims, Chief Operating Officer, International Code Council (ICC) (Accessibility Codes and Standards); Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA) and Gordon Gillerman, Chief, Standards Services Division, National Institute of Standards and Technology (NIST) (Standards for Products and Assistive Devices); and Allan Fraser, Senior Building Code Specialist, National Fire Protection Association (NFPA) (Emergency Evacuation Operations). The selection of co-leaders from cross-sector organizations symbolized the public-private partnership that contributed to the success of this workshop effort.

Several organizations supplied experts to one or more of these workshop meetings. Additionally, a selection of esteemed speakers and panelists not only contributed to the conference day proceedings, but also participated in various planning calls, strategy sessions, and e-mail communications to produce action-driven workshop programs. The following is a list of organizations that attended one or more of the workshops in this series (those followed by an asterisk indicate speakers and/or panelist participation):

The Advocacy Center *
American National Standards Institute (ANSI)
Arlington County*
Citizens and Organizations Active in Disaster
City of Falls Church
Deaf Link*
Ebed Community Improvement
Edwards
enableUS
Fairfax County Government
Falls Church, VA
Fauquier County
Federal Emergency Management Agency (FEMA)*
Fluid Architectural Design, LLC
Garaventa Evacu-Trac*
Hecker Design, LLC

Honeywell Life Safety*
International Code Council (ICC)*
Jefferson Parish
Louisiana Assistive Technology Access Network (LATAN)
Milwaukee County Dept. of Health and Human Service
Mississippi Coalition for Citizens with Disabilities*
MJM Consulting*
National Fire Protection Association (NFPA)*
National Institute of Building Science
National Institute of Standards and Technology (NIST)*
No Person Left Behind
Open Doors Organization
Pacific Northwest National Laboratory (PNNL)
Prince William County, VA
Project Management Institute (PMI)
Regional Transit Authority
Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)*
Serve DC - The Mayor's Office on Volunteerism
Temple University
The National Task Force and Life Safety for People with Disabilities (NFTF/LSPwD)*
The John F. Kennedy Center for the Performing Arts
U.S. Access Board*
U.S. Department of Education (DOE)
U.S. Department of Health and Human Services (HHS)
U.S. Department of Homeland Security (DHS)
U.S. Department of Housing and Urban Development (HUD)*
U.S. Department of Justice (DOJ)*
U.S. Food and Drug Administration (FDA)
UASI Office of Homeland Security
Underwriters Laboratories Inc. (UL)*
United Spinal Association*
University of Illinois at Chicago*
University of Maryland

Throughout the course of this workshop series, participants engaged in a series of panels, roundtable discussions, and public input sessions to address the need for new or revised standards related to the key areas of the built environment, products and assistive devices, and emergency evacuation operations. The scope and purpose of each workshop setting the context for these discussions were defined as follows:

Accessibility Codes and Standards

The purpose of this workshop was to engage leaders, experts, federal agencies, standards developers, and those impacted by the built environment and other relevant stakeholders to address the need for new or revised standards that work together, that can be easily understood by building owners, designers, code officials, contractors, and any other affected individuals so that accessible buildings can be constructed without expensive and time consuming litigation.

There is essentially a selection of a few key codes and standards that regulate our built environment with respect to accessibility requirements. One covers only federal buildings, one covers certain private buildings and buildings that receive federal funds, and one covers most private buildings, but only if adopted by state or local jurisdictions. The codes and standards come from a mix of federal government and private sector SDO communities. These include Uniform Federal Accessibility Standards (UFAS), ANSI/ICC A117.1, *Accessible and Useable Buildings and Facilities*, the International Building Code (IBC), Fair Housing Act Accessibility Guidelines (FHAG), NFPA 5000, *Building Construction and Safety Code*, and the Americans with Disabilities Act – Architectural Barriers Act (ADA-ABA) Accessibility Guidelines. The first workshop in this series sought to determine if any or all of these standards are producing truly accessible buildings to the fullest extent in addition to examining the gaps and disconnects amongst the various codes and standards in existence.

Standards for Products and Assistive Devices

The purpose of this workshop was to engage leaders, experts, standards developers, testing companies, manufacturers, federal agencies, and anyone who uses an assistive device or product to address the need for new or revised standards and third party certification programs to assure that these products or devices have been designed, built, and tested with respect to important criteria such as:

- Maintainability (cleaning, adjusting, lubricating, availability of parts)
- Durability
- Product weight
- Weight capacity or limitation
- Stability
- General safety and comfort (pinch points, sharp edges, protrusions)
- Reliability of safety devices or features
- Quality
- Ease of use of controls or safety devices
- Combustibility/flammability

Products and devices marketed to aid persons with disabilities and special needs comprise a wide-ranging list with thousands of products for many purposes. There are few Federal regulations or private sector standards in place to measure the level of quality, performance, and usefulness for these items. Assurance is also lacking in regards to products and devices performing as claimed or intended by the manufacturer and there is currently no way for the user to evaluate performance vs. cost for these crucial items.

Emergency Evacuation Operations

The purpose of this workshop was to engage leaders, experts, standards developers, first responders, persons with disabilities, federal agencies, and other stakeholders to help identify and consider the particular planning, preparation, and procedural needs of everyone, including the community of persons with disabilities and special needs, when looking at evacuation/relocation scenarios. The scope of scenarios included buildings, campus environments, localized areas up to and including large span geographical areas for all-hazard events including, but not limited to building fires, wild-land fires, hurricanes, tornados, floods, and other natural and man-made events. Methods and recommendations to codify the types of information necessary to establish a robust and encompassing plan were outlined.

Evacuation operations are much like military operations and information has always been an integral part of such operations. Successes and failures, as well as positive outcomes and negative outcomes, can hinge on the intelligence and information that is available. The basic assumption has always been that the more incident commanders know about the situation, specifically about those they need to evacuate, the better they are able to employ their resources and therefore increase the chances for success.

The quality of information needed for evacuation planning and action depends upon its:

- accuracy,
- timeliness, and
- completeness

In gathering information, those responsible for evacuation planning and execution seek information that has value. The problem, however; is that they are rarely able to accurately assess the quality of the information they receive. This may result in an incomplete plan, flawed execution of the plan, or the wrong plan all together for an emergency event.

The table contained in [Appendix D](#) is one of the major deliverables from this workshop effort and serves as a valuable resource for all key stakeholders seeking information on existing standards, best practices,

guidelines, and regulations referenced throughout the course of this workshop series. Additionally, ANSI maintains the Homeland Security Standards Database (HSSD) that provides a single, comprehensive source for standards that relate to homeland security. In creating this tool, ANSI has collaborated and continues to engage with the U.S. Department of Homeland Security, standards developing organizations, and other stakeholders to identify and classify those standards that are pertinent to the area of homeland security. The HSSD can be accessed at <http://hssd.us>.

Workshop Recommendations and Areas for Action

For the purposes of this report the workshop proceedings are organized in three categories: challenges, approaches, and standards issues/needs and are defined as follows:

Challenges:

This includes any obstacles and barriers already encountered and noted by individuals working in this space to develop standards and/or implement conformity assessment systems. Additionally, this includes any considerations that may present obstacles in the future of standards development.

Approaches:

This includes any standardization efforts currently underway that were noted throughout the course of the workshop. Also, it includes suggested paths for consideration in addressing potential obstacles as noted by workshop participants. Lastly, it includes resources referenced throughout the workshop series, all of which are summarized in [Appendix D](#).

Standards Issues/Needs:

This includes a summary of all standards gaps identified throughout the workshop series. Additionally, in some cases, standards issues/needs include standards already in existence or under development that may require modifications to fit the needs identified at these workshops.

Additionally, all presentations delivered at the each of the workshops can be accessed on ANSI Online at the following [link](#).

Accessibility Codes and Standards

Challenges:

- Enforcement of the building codes pertaining to granting physical access into buildings remains an important issue for code officials to address.
- A disconnect between the Americans with Disabilities Act /Architectural Barriers Act (ADA/ABA) Accessibility Guidelines and the International Building Code (IBC) exists in several areas including, terms and requirements. It was suggested that code changes in both ICC/ANSI A117.1, *Accessible and Useable Buildings and Facilities*, and *Chapter 11: Accessibility* of the IBC, would aid in more closely aligning the standards with the ADA requirements. Uniform codes help with uniform enforcement and this can be accomplished through cooperation amongst agencies.

- Certain critical components of building plans such as protruding objects, accessible routes, cross slopes, properly disbursed seating, curb ramps, and accessible means of egress from the building exit to a public way can be missed by plan reviewers prior to construction.
- Obstacles in regards to enforcing building codes present inconsistencies as some codes do not meet the current ADA and ABA requirements, but they do meet the requirements of the future ADA and ABA documents that will be released.
- Providing guidance to architects and building owners remains a challenge as it is difficult to ensure compliance with both the IBC and ADA/ABA. Ensuring consistency between the IBC and ADA could minimize confusion, lead to the development of useful guidance, and assist in effective enforcement.
- Currently, there is a disconnect between the ADA and IBC that causes confusion in regards to transient lodging and residential dwelling units, specifically concerning visual doorbells, peep holes, and two-way communication features (e.g. intercoms and areas of refuge).
- Operating public housing on limited funds continues to present a major challenge. Specifically, it is becoming increasingly more challenging to coordinate housing assignments to necessary and compliant accessible dwelling units.

Approaches:

- The Office of Fair Housing and Equal Opportunity with the U.S. Department of Housing and Urban Development (HUD) focuses on assuring equal opportunity within the Fair Housing Act of 1968 as modified in 1988 as well as Title II of the Americans with Disabilities Act.
- The Americans with Disabilities Act is enforced by the U.S. Department of Transportation (DoT) and the U.S. Department of Justice (DoJ), and both agencies adopt standards based on the U.S. Access Board guidelines.
- The International Code Council (ICC) is the secretariat of the A117 ANSI Accredited Standards Committee on Architectural Features and Site Design of Public Buildings and Residential Structures for Persons with Disabilities. The ICC/ANSI A117.1 standard, *Accessible and Useable Buildings and Facilities*, is updated on a five-year cycle. The process is open to all relevant stakeholders in regards to code changes, however; the final vote is limited to committee members. Currently, the Secretariat is balloting a revised draft and a modified version should be published in the near future.
- The International Building Code (IBC) is developed using a government consensus process and is updated on a three year cycle.
- The development cycle for both the ICC/ANSI A117.1 standard and the IBC allows for easier adjustment to changes in the industry or new technologies, as well as maintaining gradual changes to the documents.

- Both the IBC and ICC/ANSI A117.1 are enforced through the building design and construction process.
- The process of updating the U.S. Access Board Guidelines is not on a regular cycle, however; it is an open process.
- The U.S. Access Board is committed to working with model codes and standards and bringing them together, and in doing so utilizing both the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA) Accessibility Guidelines. In defining model codes panelists noted the distinction between federal law. Additionally, panelists highlighted the following key points related to the model codes: they do not have any legal authority; they create a single model document, thus eliminating the need for each jurisdiction to create its own document; and they help reduce the burden on government and its entities as a result.
- The Fair Housing Act (FHA) was amended in 1988 to add people with disabilities and it covers both federally assisted and privately owned buildings. The Fair Housing Act impacts a broad number of units and covers basic access. Housing and Urban Development (HUD) enforces the FHA.
- The Fair Housing Act Design Manual: A Manual to Assist Designers and Builders in Meeting the Accessibility Requirements of The Fair Housing Act provides clear and helpful guidance about ways to design and construct housing that complies with the Fair Housing Act. The manual explains the accessibility requirements of the Act that must be incorporated into the design and construction of multi-family housing covered by the Act.
- The 2010 version of NFPA 72, *National Fire Alarm and Signaling Code*, includes revisions for signaling for the deaf and hard of hearing including improved safety in sleeping areas, new rules that mandate low-frequency signaling for those with mild to severe hearing loss, and tactile as well as visible signaling for those with profound hearing loss.
- Section 504 of the Rehabilitation Act of 1973 is a national law that protects qualified individuals from discrimination based on their disability.
- The Department of Justice (DOJ) facilitates a process in which state and local building codes can be certified as being equivalent to the requirements of the ADA standards. To date, six states have attained this certification as a result of adopting ADA standards making them enforceable through their building codes.
- It was noted that it would be useful to educate the public on the use of limited access/limited use elevators (LULA) as they are compliant with the ICC/ANSI A117.1 standard. Also, there is a potential need to level-set between designer recommendations vs. requirements and/or lack of requirements.
- The U.S. Access Board has included in the 2004 ADA/ABA several new provisions for recreational facilities including pools, playgrounds, exercise equipment, golf, fishing, miniature golf, shooting

facilities, recreational boating, and amusement park rides. Most of these technical requirements will appear in the upcoming version of the ICC/ANSI A117.1 standard.

- ANSI ASA S12.60, *Classroom Acoustics*, has been published and is available freely online from the Acoustical Society of America (ASA).
- IBC Appendix E, *Supplementary Accessibility Requirements*, contains additional requirements that are found in the standards, including transient lodging, detention facilities, and transportation facilities.
- The ADA has a requirement for maintenance of accessible features.
- All requirements for recreational facilities are in the 2004 ADA/ABA Accessibility Guidelines, developed by the U.S. Access Board, and will be adopted by the U.S. Department of Justice (DoJ) as the 2010 Standards for Accessible Design following the ANSI-HSSP workshop series. The ADA requires DoJ to publish ADA design standards that are consistent with the guidelines published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board). DoJ has adopted revised ADA design standards that include the relevant chapters of the U.S. Access Board's 2004 ADA/ABA Accessibility Guidelines.
- A project currently underway within the General Services Administration (GSA) includes the review of interior lighting for the visually impaired.

Standards Issues/Needs:

- An issue requiring resolution includes the handling of buildings that are Americans with Disabilities Act (ADA) compliant according to the current version after the revised ADA is released, as this will have a profound impact on how the building codes will be viewed.
- Religious facilities and private clubs are excluded from the ADA.
- A gap exists in the area of accessible means of egress requirements for a variety of recreational situations, such as outdoor stadiums.
- Another area requiring closer examination includes vertical access/egress such as occupant evacuation elevators, as they offer a potential solution to evacuating persons with disabilities efficiently in emergency situations.
- A standards gap was identified in regards to visual fire alarms that alert the deaf that an alarm is sounding, as a solution is lacking for situations where visual alarms are accompanied by audio announcements.
- The U.S. Access Board guidelines, as well as most codes and standards, allow for industry tolerance. The U.S. Access Board has released papers on tolerance that can be found at www.access-board.gov. The U.S. Access Board's next step includes developing construction

tolerances for each of the products that are under its purview. ICC/ANSI A117.1 states that all numbers still have a tolerance, but specifies the minimums and maximums. An interim solution to address the lack of specified tolerances is necessary.

- Standards are needed for developing compliant ramps/slopes that also define required measurements.
- Other standards needs include children's facilities (e.g. drinking fountains, WC compartments, lavatories and sinks, and dining/work surfaces), public toilets (e.g. family use/assisted use bathrooms), parking (e.g. vehicle parking space size and van parking spaces), stairs, illumination for means of egress, and handrails.

Standards for Products and Assistive Devices

Challenges:

- The Americans with Disabilities Act (ADA) is predicated on the fact that people with disabilities had viewed the lack of access in the environment as the primary impediment to integration into society.
- A key requirement in developing products and assistive devices for persons with disabilities and special needs is to identify the features that can be included in order for the products to not pose as a barrier in the built environment, but still complete the objective of providing people with disabilities equal access.
- An issue that needs to be addressed is the issue of responsibility on the part of a person with a disability to identify himself/herself to emergency responders. This issue should be included in the emergency evacuation discussion.
- There is currently a disconnect between those who provide services to persons with disabilities and special needs and those who provide emergency services.

Approaches:

- The U.S. Access Board uses a number of voluntary standards when establishing guidelines including NFPA 72, *National Fire Alarm and Signaling Code*; ANSI/ASME A17.1, *Safety Code for Elevators and Escalators*; and ANSI/ASME A18.1, *Safety Standard for Platform Lifts and Stairway Chairlifts*.
- The U.S. Access Board is currently examining standardization in the area of recreation including swimming pools, amusement park rides, and miniature golf.
- The American Society of Mechanical Engineers (ASME) has formed a group to further examine the use of occupant-use elevators to ensure the safety of people, specifically for those with disabilities, when used to safely egress in emergency situations. The anticipated result of this effort will be to provide an equal opportunity for persons with disabilities and special needs to safely evacuate a building while simultaneously reducing the evacuation time for tall buildings.
- Government agencies adopt the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) standards by reference to set minimum performance requirements for assistive technologies. RESNA standards are also used for coding of rehabilitation products for third party reimbursement.
- An overview of the ANSI approved standards development process was provided, noting the process is done with openness, balance, consensus, and due process. The ANSI process is unique as it offers a forum where all stakeholder positions must be taken into consideration when developing a product standard.
- Building codes are considered by manufacturers as the basis for all decision making.

- Manufacturers communicate with the user community in order to gain an understanding of what works and what does not work. Manufacturers maintain an awareness of the direction that building codes and standards are going in order to produce a profit and bring products to market as the requirements become effective.
- It is key for the private sector to leverage products that can be utilized for the general population as well as the community of persons with disabilities and special needs.
- Conformity assessment is demonstration that specific requirements relating to a product, process, system, person, or body are fulfilled. Conformity assessment uses the term attestation to define who makes the attestation of conformity. Third party attestations of conformity are vital to the conformity assessment process as they come from a neutral third party.
- Approximately eighty percent of transactions in the U.S. market place take place based on supplier declaration of conformity.
- ISO/IEC 17065, *Conformity assessment -- Requirements for certification bodies certifying products, processes and services*, is the standard for conformity assessment and certification. Certification includes the gathering of information, evaluation and assessment of information against the requirements, and a program of surveillance to ensure conformity.
- Underwriters Laboratories (UL) solicits input from a vast array of key stakeholders (e.g. manufacturers, government agencies, consumers, medical experts, fire officials, code authorities, etc.) when developing standards in accordance the ANSI process of openness.
- Retailers preference lies in purchasing products out in the market that have been third party certified.
- Background was provided on NFPA's Disabilities Access Review and Advisory Committee (DARAC), noting that its purpose is to help ensure that NFPA codes, public education, and other safety initiatives, recognize and fully consider the needs of people with disabilities.
- A selection of relevant standards noted include: ASTM E2484-08, *Standard Specification for Multi-Story Building External Evacuation Controlled Descent Devices*; ISO 7176-24 (2005), *Wheelchairs Part 24: Requirements and test methods for user-operated stair-climbing devices*; ISO 7176-28 (2009), *Wheelchairs Part 28: Requirements and test methods for stair climbing devices*; and ASME A18.1-2008, *Safety Standard for Platform Lifts and Stairway Chairlifts Stairway*.
- The NFPA 101 Life Safety Code examines the area of occupant egress, and includes requirements for existing occupancies as well as new occupancies.
- The idea of a science-based approach in standards is important as it brings scientific evidence to the standardization process.

Standards Issues/Needs:

- The development of assistive devices and product standards should include balanced participation, including groups who may bear the costs of liabilities such as building owners. Additionally, there is a strong need for the community of persons with disabilities and special needs to be fully engaged in the design, use, and installation and maintenance of products and existing and/or potential future associated standards.
- The user community is encouraged to participate in the standards development process in order to ensure that the standards for products and devices will meet the needs of the user community.
- There is a need for product standards for components used by persons with disabilities, as well as third party certification programs.
- In regards to conformity assessment, consumer input is valuable in the process as it illustrates the needs of the user community.
- Standards for measuring products are necessary, specifically in regards to determining usability, durability, maintainability, product weight, weight capacity or limitation, stability, general safety and comfort, reliability, and combustibility.
- The RESNA standards committee on wheelchairs has been actively working on standards that will increase wheelchair quality and safety. Dynamic stability testing of adjustable products is critical.
- The RESNA Standards Committee on Emergency Stair Travel Devices noted that the standard they are in the process of developing will cover the scope of design, performance, description, inspection, and maintenance of devices whose primary purposes is the travel of individuals using stairs during evacuation of buildings. The standard will also incorporate terminology and will need to include range of device weight capacity.
- There is a need to have a set of minimum performance standards for emergency evacuation chairs.
- Emerging issues that have a need for standards include emergency egress and areas of refuge for persons with disabilities in emergency situations.
- NFPA's DARAC is seeking to develop a program for product standards and third party certification that examines a variety of issues including usability beyond the applicable accessible standards, maintainability, and ease of use.
- There is a need for a synergy between standards and building codes so that the scoping of both can effectively work together. An example of this need is the gap in the A117.1, *Accessible and Useable Buildings and Facilities*, as this standard does not include scoping.
- There is a need for products, model codes, building codes, the built environment, concept of operations, and emergency operations to be integrated to form a system solutions approach.
- There is a gap area in visual alarms in that some visual alarms are accompanied by a verbal announcement, which is not accessible to the hearing impaired.

- There is a potential to begin contacting people in emergency situations via electronic devices, and once that type of contact begins, the development of standards will be required in order to ensure the privacy and integrity of personal information via their electronic device.
- Additional areas requiring standards include wheel chair storage (e.g. aviation and aircraft space issues) as well accessible public transportation.

Emergency Evacuation Operations

Challenges:

- Unpreparedness for various emergency situations is still a large issue, most notably resulting in individuals being left behind.
- Currently, the only entity that has been identified to shelter persons with disabilities is the Red Cross, however; the Red Cross does not maintain a special needs registry.
- The Red Cross has special medical shelters for people who exceed the capabilities of the regular Red Cross shelters, but do not require hospitalization. This has resulted in confusion among first responders regarding who qualifies for what type of shelter.
- All levels of government experienced failures in their efforts to respond to the needs of persons with disabilities during Hurricane Katrina, and it is vital that those lessons learned be applied.
- In areas where individuals are able to register, there are still some cases where the individuals registered are not included in the emergency evacuation planning. The needs of people who are registered need to be addressed even if they are not in their home at the time of the evacuation.
- All people have an obligation to take action during an emergency and assume responsibility for their own safety, which includes being aware of one's own abilities and disabilities.
- Emergency evacuation planners need to be provided with necessary equipment, supplies, and staffing resources in order to properly integrate all emergency management services.
- There are several barriers for persons with sensory disabilities that are a threat to their lives, including lack of access to preparedness information, emergency alerts, and services to mitigate losses.

Approaches:

- In Louisiana one of the lessons learned from Hurricane Katrina was the need to identify those individuals who require help evacuating in an emergency situation. Louisiana has set up a 311 number to call and register so that the individuals who register with special needs are accounted for in emergency planning.
- A shift in terminology has been taking place. For example, FEMA is moving away from the term "Special Needs" and is instead using a definition of "Access and Functional Needs".
- FEMA is about to publish the Functional Needs Support Services (FNSS) Sheltering Scope and Definition Guidelines and will be providing nationwide training. The FNSS guidance will include information regarding planning, potential shelter sites, and medical care.

- FEMA is putting many helpful tools in place to assist the states that choose to use them as FEMA's role is to support the states in the emergency evacuation process. An important role of the advocacy community should be to help their states understand how the FEMA guidelines can benefit not only persons with disabilities, but the entire community.
- NFPA has published a guide that serves as a tool to provide assistance to people with disabilities and special needs, employers, building owners and managers, and others as they develop emergency evacuation plans that integrate the needs of people with disabilities. The NFPA Emergency Evacuation Planning Guide can be downloaded by clicking the following link: <http://www.nfpa.org/categoryList.asp?categoryID=824>.
- When planning for emergency evacuation it is important to walk through the plans in order to identify gap areas in the plan, and to formulate a plan for each individual. It is helpful to practice these plans with people with disabilities to ensure that the plan works for the intended user.
- The Americans with Disabilities Act (ADA) is an important reference and information is available on www.ada.gov, including information on the enforcement of Chapter 7 of the ADA that addresses emergency management.
- ADA standards lay out the physical specifications of emergency shelters.
- Federal Law requires that individuals with disabilities have the right to participate in and benefit from emergency management programs.
- Emergency planners and managers must have a basic knowledge of requirements applicable under the ADA, and they must be involved with identifying needs to accommodate those in their community who have a disability.
- Effective communication is required under the ADA and is an integral part in every stage of emergency management. Communication plans need to be consistent in keeping in mind people with disabilities.
- Texas has developed the Accessible Hazard Alert System (AHAS) that provides the state and county emergency managers the ability to provide emergency information and alerts to broadcasters in the formats of voice, sign language, and text. AHAS also allows persons with disabilities to enroll to receive individual notification of emergency information, as well as providing American Sign Language access support for shelters.
- Utilizing technology that enhances the alerting process in a variety of formats improves the disaster response time of persons with sensory disabilities. This technology includes video formats that help the deaf or hard of hearing who rely on American Sign Language.
- Technology gives us the ability to make emergency information available in different modalities that can be used by the entire population, therefore making emergency planning all inclusive.

- Accessible emergency information provides emergency information in voice, text, and sign language.
- The National Technology Transfer and Advancement Act (NTTAA) outlines the requirement of federal agencies to use voluntary consensus standards when they are available and applicable in lieu of creating federal standards.
- It is important that people with disabilities become involved in emergency preparedness within their communities and advocate for their specific needs.

Standards Issues/Needs:

- Emergency preparedness plans should be inclusive plans that take the needs of the entire population into account. The Department of Justice (DoJ) could assist with these plans if formal government requests are made, which would be important to this process.
- A key area that requires standards is accessible shelters and standards for cots.
- The needs of the entire population must be planned for in emergency planning, including the local level planning.
- There are five key areas in planning and response that require particular attention: preparation, notification, evacuation and transportation, sheltering, and first aid medical services.
- Standards are required to ensure that the four essential items that comprise a notification system produce positive results. Effective notification systems need to inform people of: the emergency, the way out, usability of exits, and what if any and the type of assistance needed.
- An aspect of emergency evacuation that was identified for persons with disabilities and special needs is identifying the types of assistance that will be needed and including that in the emergency evacuation plan, as well as including service animals in evacuation planning.
- During emergency situations, several areas have designated pick up points to pick up and transport individuals and evacuate them out of the area. These pick up points need to be accessible so that they can be used by all individuals.
- Common language is needed in order to identify persons with disabilities, instead of placing everyone in the “special needs” category as this term can be confusing.
- Information dissemination is an area in which standards development is needed. Information dissemination includes various outlets such as news broadcasts, emergency alerts, text message alerts, etc. This topic includes a product standards component in terms of how intended messages are displayed.
- A gap in standards exists in evacuation devices. The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), currently convenes a task group for the

development of design guidelines for evacuation chairs, which is an example of the kind of standards that are needed in this area.

- The current administration's focus in emergency planning is on resiliency and the ability to not only be prepared for a disaster but to be able to recover from that disaster and build back communities as well.
- Additional needs and improvements required based on lessons learned include: clarification of roles and responsibilities, federal logistics systems, temporary housing, subject matter experts, debris removal, contracting and sub-contracting, and national system to track missing persons.

Conclusion

Recent catastrophic events such as the 9/11 attacks, Hurricanes Katrina and Rita, and several others revealed the need for standards and other guidance specifically addressing the population of persons with disabilities and special needs. Standards are crucial for successful planning and execution, allowing public and private sector entities to effectively work together, and for mitigating the consequences resulting from a disaster. These measures are necessary for businesses, governments and communities to protect the lives of persons with special needs.

The partnership the ANSI-HSSP has developed with the U.S. Department of Homeland Security (DHS), as well as with SDOs, disability advocacy groups, and the disabilities and special needs community plays an integral role in addressing the need for standards-based solutions for more effective emergency preparedness. Additionally, this partnership will continue to grow as ANSI, through its HSSP, remains dedicated to proactively responding to the needs and rights of people with disabilities and special needs.

The leaders of this workshop look forward to working with key stakeholders to maximize the recommendations and findings from this report. The ANSI-HSSP appreciates any feedback or inquiries on this report, which should be directed to the contact information listed on the second page.

Appendix A - Acknowledgements

ANSI wishes to acknowledge the support and participation of all the organizations that supplied experts to the workshop meetings. We also wish to express sincere appreciation to all the individual workshop attendees for their active participation and sharing their expertise on this subject matter.

ANSI offers its great appreciation to the workshop leaders Dominic Sims, Chief Operating Officer, International Code Council (ICC) (Accessibility Codes and Standards), Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA) and Gordon Gillerman, Chief, Standards Services Division, National Institute of Standards and Technology (NIST) (Standards for Products and Assistive Devices), and Allan Fraser, Senior Building Code Specialist, National Fire Protection Association (NFPA) (Emergency Evacuation Operations). Mr. Sims, Mr. Dubay, Mr. Gillerman, and Mr. Fraser provided the leadership, subject matter expertise, and perseverance that was essential for keeping this workshop series on track and for the successful delivery of this final report.

Additional thanks are due to several individuals who also aided in the initial planning and program development for the workshop series in addition to the workshop leaders noted above. This includes all of the speakers and panelists that were instrumental in shaping a successful series of workshop programs. Their names are distinguished by an asterisk in [Appendix C](#). Additionally, ICC staff: Michael Armstrong, Kim Paarlberg, Jay Woodward, and Sara Yerkes, as well as Robert Solomon from NFPA consulted on developing an impactful program throughout this workshop series. Thanks also go to Karen Hughes, Director of Homeland Security Standards at ANSI, for her project management of this activity and to Jessica Carl, Program Administrator at ANSI, for providing support for these workshops. Also, ANSI appreciates the services provided by Deaf Link for providing access to the workshop proceedings for individuals who rely on American Sign Language (ASL) through Video Remote Interpreting.

Lastly, ANSI further thanks Dr. Bert Coursey and his team from the DHS S&T Standards Office for providing input into the program development for this workshop series. Appreciation is given to the primary sponsor, the National Fire Protection Association (NFPA), without whose support, such workshops would not be possible.

Appendix B – Final Workshop Agendas

	<p>ANSI Homeland Security Standards Panel (ANSI-HSSP)</p>	<p>A Workshop on: “Accessibility Codes and Standards”</p>
<p>May 24, 2010 Arlington, VA</p>	<p>Workshop Chair: Dominic Sims, Chief Operating Officer, International Code Council (ICC)</p>	<p>Final Agenda</p>
<p><u>Sheraton National Hotel</u> 900 South Orme Street Arlington, VA 22204</p>		
<p>Monday May 24, 2010</p>		
<p>8:00am – 8:30am</p>	<p>Registration Desk Opens</p>	
<p>8:30am – 8:45am</p>	<p>Welcome & Opening Remarks</p> <ul style="list-style-type: none"> • Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA), ANSI-HSSP Co-Chair • Dominic Sims, Chief Operating Officer, International Code Council (ICC), Workshop Chair 	
<p>8:45am -11:45am BREAK: 10:00am – 10:15am</p>	<p>Federal Role – Development, Interaction and Coordination of Federal Rules and Regulations for Accessibility of Buildings and Structures</p> <p>Codes and Standards Role of the SDOs – Development, Interaction and Coordination of ANSI/ICC A117 and ICodes, ADA, ABA, and Fair Housing</p> <ul style="list-style-type: none"> • Cheryl Kent, Special Advisor for Disability Policy, Office of Enforcement, Office of Fair Housing and Equal Opportunity, US Department of Housing and Urban Development (HUD) • Marsha Mazz, Senior Technical Assistance Coordinator, US Access Board • Kim Paarlberg, Senior Staff Architect, Codes and Standards, International Code Council (ICC) • Jay Woodward, Senior Staff Architect, Codes and Standards, International Code Council (ICC) 	
<p>11:45pm – 1:00pm</p>	<p>LUNCH</p>	
<p>1:00pm – 1:45pm</p>	<p>Putting the Rules to the Test –Interpretation of Private Sector Guidance and Public Sector Regulation in “Accessible Design”</p> <ul style="list-style-type: none"> • Shahriar Amiri, Chief Building Official, Arlington County Virginia, Department of 	

	<p>Community Planning, Housing and Development</p> <ul style="list-style-type: none"> • Mark J. Mazz, AIA, Architectural Consultant
1:45pm – 2:00pm	BREAK
2:00pm – 3:20pm	<p>Roundtable Discussion – All Participants</p> <p>Moderator: Kleo King, Senior Vice President, Accessibility Services, United Spinal Association</p> <ul style="list-style-type: none"> • What gaps exist? • Challenges of coordination • Reaching Federal goals through model codes and standards • Review of the code and standards by HUD and DOJ for 'safe harbor' and 'equivalency' • Educational tools • Refinement or expansion of existing standards and/or development of new standards
3:20pm – 3:30pm	<p>Closing Remarks:</p> <p>Moderator: Chris Dubay/Gordon Gillerman, ANSI-HSSP Co-Chairs</p>
3:30pm	Adjournment



ANSI Homeland Security
Standards Panel (ANSI-HSSP)

A Workshop on:
**“Emergency Preparedness
 for Persons with
 Disabilities and Special Needs –
 Standards for Products and Assistive
 Devices”**

Final Agenda

May 25, 2010 Arlington, VA

Workshop Co-Chairs:

Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA), ANSI-HSSP Co-Chair

Gordon Gillerman, Chief, Standards Services Division, National Institute of Standards and Technology (NIST), ANSI-HSSP Co-Chair

[Sheraton National Hotel](#)

900 South Orme Street
Arlington, VA 22204

Tuesday – May 25, 2010

8:00am – 8:30am	Registration Desk Opens
8:30am – 8:45am	Welcome & Opening Remarks <ul style="list-style-type: none"> • Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA), ANSI-HSSP Co-Chair
8:45am - 9:15am	The Need for Standards – Prioritizing Needs <ul style="list-style-type: none"> • Marsha Mazz, Senior Technical Assistance Coordinator, US Access Board
9:15am – 10:45am	Assistive Devices and Product Standards Development <ul style="list-style-type: none"> • Incorporating Field Research Into Standards/Code Development <ul style="list-style-type: none"> ○ Jason Averill, Group Leader, Building and Fire Research Laboratory, National Institute of Standards and Technology (NIST) • Standards Developing Organization (SDO) Perspective <ul style="list-style-type: none"> ○ Nell Bailey, Executive Director, RESNA • Manufacturer Perspective <ul style="list-style-type: none"> ○ Isaac Papier, Vice President, Industry Relations, Honeywell
10:45am – 11:00am	BREAK
11:00am – 12:00pm	Assistive Devices and Product Standards Conformity Assessment <ul style="list-style-type: none"> • Overview of Conformity Assessment Systems <ul style="list-style-type: none"> ○ Gordon Gillerman, Chief, Standards Services Division, National Institute of Standards and Technology (NIST)

	<ul style="list-style-type: none"> • Conformity Assessment Approaches Used in Other Sectors <ul style="list-style-type: none"> ○ John Drengenberg, Manager of Consumer Affairs, Underwriters Laboratories Inc. (UL)
12:00pm - 1:00pm	LUNCH
1:00pm – 2:00pm	Standards Development Initiatives – Underway and Just Around the Corner <ul style="list-style-type: none"> • RESNA Committee on Evacuation Chairs <ul style="list-style-type: none"> ○ Glenn Hedman, Chair of RESNA Standards Committee on Emergency Stair Travel Devices for Individuals with Disabilities
2:00pm – 2:45pm	Roundtable Discussion: <u>Moderator:</u> Chris Dubay & Gordon Gillerman, Workshop Co-Chairs <ul style="list-style-type: none"> • What gaps exist • Bridging methods to connect needs to SDOs • Resources • Prioritizing Standards Development Activity
2:45pm	Adjournment



ANSI Homeland Security
Standards Panel (ANSI-HSSP)

A Workshop on:
**“Emergency Preparedness
 for Persons with
 Disabilities and Special Needs –
 Emergency Evacuation Operations”**

Final Agenda

June 17, 2010 New Orleans, LA

Workshop Chair:

**Allan Fraser, Senior Building Code Specialist, National Fire
Protection Association (NFPA)**

Astor Place Crowne Plaza
 739 Canal Street
 New Orleans, LA 70130

Thursday June 17, 2010

8:00am – 8:30am	Registration Desk Opens
8:30am – 8:45am	Welcome & Opening Remarks <ul style="list-style-type: none"> • Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA), ANSI-HSSP Co-Chair
8:45am – 10:45am	The Katrina Experience – Five Years and Counting <ul style="list-style-type: none"> • Local Perspective – Lessons Learned: <ul style="list-style-type: none"> ○ Mary Troupe, Executive Director, Mississippi Coalition for Citizens with Disabilities ○ Susan Meyers, Attorney, The Advocacy Center-New Orleans • Federal Perspective – Lessons Learned: <ul style="list-style-type: none"> ○ Marcie Roth, Director, Office of Disability Integration and Coordination, Federal Emergency Management Agency (FEMA)
10:45am - 11:00am	Morning Break
11:00am – 11:45am	Every Day Emergencies – NFPA Emergency Evacuation Planning Guide <ul style="list-style-type: none"> • Allan Fraser, Senior Building Code Specialist, National Fire Protection Association (NFPA)
11:45am - 1:00pm	LUNCH
1:00pm – 1:45pm	Department of Justice Requirements – Inclusiveness of Your Plan <ul style="list-style-type: none"> • Dana L. Jackson, Investigator, Disability Rights Section, U.S. Department of Justice (DOJ) • Dov Lutzker, Special Counsel, Disability Rights Section, Civil Rights Division, U.S. Department of Justice (DOJ)
1:45pm - 2:30pm	Inclusion of Persons with Sensory Disabilities - Before, During, and After

	<ul style="list-style-type: none"> • Kay Chiodo, Deaf Link
2:30pm - 2:45pm	Afternoon Break
2:45pm – 4:15pm	<p>Planning Documents and Guides – Conversion to Standards/Development of Standards</p> <p><u>Moderator:</u> Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA), ANSI-HSSP Co-Chair</p> <ul style="list-style-type: none"> • NFPA 1600 • Emergency Evacuation Planning Guide • Federal Protocols • Other
4:15pm - 4:30pm	Closing Remarks/Adjournment

Appendix C – Workshop Attendance Roster

<u>First Name</u>	<u>Last Name</u>	<u>Organization</u>	<u>May 24 - Accessibility Codes and Standards</u>	<u>May 25 - Product Standards for Assistive Devices</u>	<u>June 17 - Emergency Evacuation Operations</u>
Jeanne	Abadie	The Advocacy Center			x
Antonio	Acevedo	Arlington County	x		
Melvin	Allder	Arlington County	x		
Shahriar	Amiri*	Arlington County	x		
Michael	Armstrong	International Code Council (ICC)	x		
Jason	Averill*	National Institute of Standards and Technology (NIST)		x	
Nell	Bailey*	Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)		x	
Linda	Botts	Citizens and Organizations Active in Disaster			x
Setta	Brown	Louisiana Assistive Technology Access Network (LATAN)			x
Jessica	Carl	American National Standards Institute (ANSI)	x	x	x
Stephanie	Carroll	American National Standards Institute (ANSI)	x	x	
Kay	Chiodo*	Deaf Link			x
Rosemary	Ciotti	Arlington County	x		
Ryan	Colker	National Institute of Building Science	x		
David	Cooper	Fauquier County	x		
Bert	Coursey	U.S. Department of Homeland Security (DHS)	x	x	
Trevor	de Jaray*	Garaventa Evacu-Trac		x	
Louise	DiMatteo	Arlington County	x		
John	Drengenberg*	Underwriters Laboratories Inc. (UL)		x	
Chris	Dubay*	National Fire Protection Association (NFPA)	x	x	x
Greg	Emanuel	Arlington County	x		
Andrea	Fantacci	No Person Left Behind			x
Allan	Fraser*	National Fire Protection Association (NFPA)	x	x	x
Doug	Fraser	Falls Church, VA	x		
Steven	Fronk	UASI Office of Homeland Security			x
Debbie	Fulmer	U.S. Department of Homeland Security (DHS)		x	
Gordon	Gillerman*	National Institute of Standards and Technology (NIST)	x	x	
Bonnie	Gracer	U.S. Department of Education (DOE)	x	x	
Peg	Hamil	Prince William County, VA	x		
Bill	Hecker	Hecker Design, LLC			x
Glenn	Hedman*	University of Illinois at Chicago	x	x	
Bruce	Hildebrand	Federal Emergency Management Agency (FEMA)			x
Kenneth	Hill	Open Doors Organization	x	x	

Katherine	Hoover	Jefferson Parish			x
Mike	Houston*	Deaf Link			x
Karen	Hughes	American National Standards Institute (ANSI)	x	x	x
Dana	Jackson*	U.S. Department of Justice (DOJ)			x
Damian	Jorge	Arlington County	x		
Edwina	Juillet*	The National Task Force and Life Safety for People with Disabilities (NFTF/LSPwD)*	x	x	x
Jamie	Karam	Louisiana Assistive Technology Access Network (LATAN)			x
David	Karmol	International Code Council (ICC)	x		
Cheryl	Kent*	U.S. Department of Housing and Urban Development (HUD)	x		
Kleo	King*	United Spinal Association	x		
Brian	Lake	enableUS	x	x	
Dov	Lutzker*	U.S. Department of Justice (DOJ)			x
Joseph	Martin	Serve DC - The Mayor's Office on Volunteerism	x		
George	May	Arlington County	x		
Mark	Mazz*	MJM Consulting	x		
Marsha	Mazz*	U.S. Access Board	x	x	
Jonathan	McDonald	Arlington County	x		
Nancy	McNabb	National Fire Protection Association (NFPA)	x	x	x
Cindy	Mester	City of Falls Church	x		
Susan	Meyers*	The Advocacy Center			x
MinhChau	Nguyen	Arlington County	x		
Dave	Nichols	International Code Council (ICC)			x
Charles	O'Donnell	Fairfax County Government	x		
Kim	Paarlberg*	International Code Council (ICC)	x		
Isaac	Papier*	Honeywell Life Safety		x	
Brian	Parsons	U.S. Department of Homeland Security (DHS)		x	
John	Pendleton	Fairfax County Government	x		
Mischa	Pickering	Fluid Architectural Design, LLC			x
Ray	Pylant	Fairfax County Government	x		
Marcie	Roth*	Federal Emergency Management Agency (FEMA)	x		x
Margaret	Schaefer	U.S. Department of Homeland Security (DHS)	x		
Laura	Schnicke	Milwaukee County Dept. of Health and Human Service			x
Fran	Schrotter	American National Standards Institute (ANSI)	x	x	
Nuri	Serteser	University of Maryland		x	
Muluso	Shamapande	Ebed Community Improvement	x	x	
Moira	Shea	U.S. Department of Health and Human Services (HHS)	x	x	
Peter	Shebell	U.S. Department of Homeland Security (DHS)	x	x	
Betty	Siegel	The John F. Kennedy Center for the Performing Arts	x	x	
Dominic	Sims*	International Code Council (ICC)	x		

Amy	Skrzypchak	U.S. Food and Drug Administration (FDA)		x	
Brent	Stagnaro	Arlington County	x	x	
Robert	Stenner	Pacific Northwest National Laboratory (PNNL)			x
Moira	Stoddart	Temple University		x	
Mary	Troupe*	Mississippi Coalition for Citizens with Disabilities			x
Joe	Watkins	Regional Transit Authority			x
Pernell	Wheeler	Fairfax County Government	x		
Brent	Wilkins	Edwards			x
Jay	Woodward*	International Code Council (ICC)	x		
Xiaoping	Yang	Project Management Institute (PMI)	x	x	
Sara	Yerkes	International Code Council (ICC)	x		

Appendix D – Reference Guide

			May 24 Accessibility Codes and Standards	May 25 Product Standards for Assistive Devices	June 17 Emergency Evacuation Operations
Developer	Designation	Title			
ANSI/RESNA	ESTD	Emergency Stair Travel Devices for People with Disabilities*		x	
ASA	ANSI/ASA S12.60-2010/Part 1	American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools	x		
ASA	ANSI/ASA S12.60-2010/Part 2	American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 2: Relocatable Classroom Factors	x		
ASME	ANSI/ASME A17.1-2007	Safety Code for Elevators and Escalators	x	x	
ASME	ANSI/ASME A18.1-2005	Safety Standard for Platform Lifts and Stairway Chairlifts		x	
ASTM	ASTM E2484-08	Standard Specification for Multi-Story Building External Evacuation Controlled Descent Devices		x	
FEMA	FNSS	Functional Needs Support Services			x
FEMA	FEMA 361 Second Edition	Design and Construction Guidance for Community Safe Rooms			x
FEMA	Public Law 100-707	Robert T. Stafford Disaster Relief and Emergency Assistance Act			x
HUD	FHA 1968	Fair Housing Act	x		
HUD	FHAA 1988	Fair Housing Amendments Act	x		
ICC	ICC/ANSI A117.1-2003	Accessible and Useable Buildings and Facilities	x		
ICC	IBC 2009	2009 International Building Code	x		
ISO	ISO 7176-24:2004	Wheelchairs Part 24: Requirements and test methods for user-operated stair-climbing devices		x	

ISO	ISO/DIS 7176-28	Wheelchairs Part 28: Requirements and test methods for stair climbing devices *		x	
ISO	ISO 9001: 2000	Quality management systems - Requirements		x	
ISO	ISO 14001:2004	Environmental management systems - Requirements with guidance for use		x	
ISO	ISO 17000:2004	Conformity assessment -- Vocabulary and general principles		x	
ISO	ISO 17011:2004	Conformity assessment -- General requirements for accreditation bodies accrediting conformity assessment bodies		x	
ISO	ISO/IEC CD 17020	Conformity assessment -- General criteria for the operation of various types of bodies performing inspection*		x	
ISO	ISO 17021:2006	Conformity assessment - Requirements for bodies providing audit and certification of management systems		x	
ISO	ISO 17025:2005	General requirements for the competence of testing and calibration laboratories		x	
ISO	ISO 17050-1:2004	Conformity assessment - Supplier's declaration of conformity - Part 1:General requirements		x	
ISO	ISO 17050-2:2004	Conformity assessment - Supplier's declaration of conformity - Part 2: Supporting documentation			
ISO	ISO/IEC CD 17065	Conformity Assessment - Requirements for certification bodies certifying products, processes and services*		x	
NFPA	NFPA 72-2010	National Fire Alarm and Signaling Code, 2010 Edition	x	x	
NFPA	NFPA 101-2009	Life Safety Code, 2009 Edition	x		x

NFPA	NFPA 1710-2001	Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2001 Edition		x	
NFPA	NFPA 1720-2001	Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, 2001 Edition		x	
NFPA	NFPA-2007	Emergency Evacuation Planning Guide for People with Disabilities			x
NFPA	NFPA 5000-2009	Building Construction and Safety Code	x		
NOD	SNAKE	Report on Special Needs Assessment for Katrina Evacuees Project			x
United States Access Board	ADA	Americans with Disabilities Act	x		
United States Access Board	ABA 1968	Architectural Barriers Act	x		
United States Access Board	ADAAG 2004	The Americans with Disabilities Act Accessibility Guidelines	x		
United States Access Board	UFAS 1984	Uniform Federal Accessibility Standards	x		
United States Congress	Public Law 93-112 93rd Congress, H. R. 8070 September 26, 1973	The Rehabilitation Act of 1973 - Section 504, 508	x	x	
* under development					